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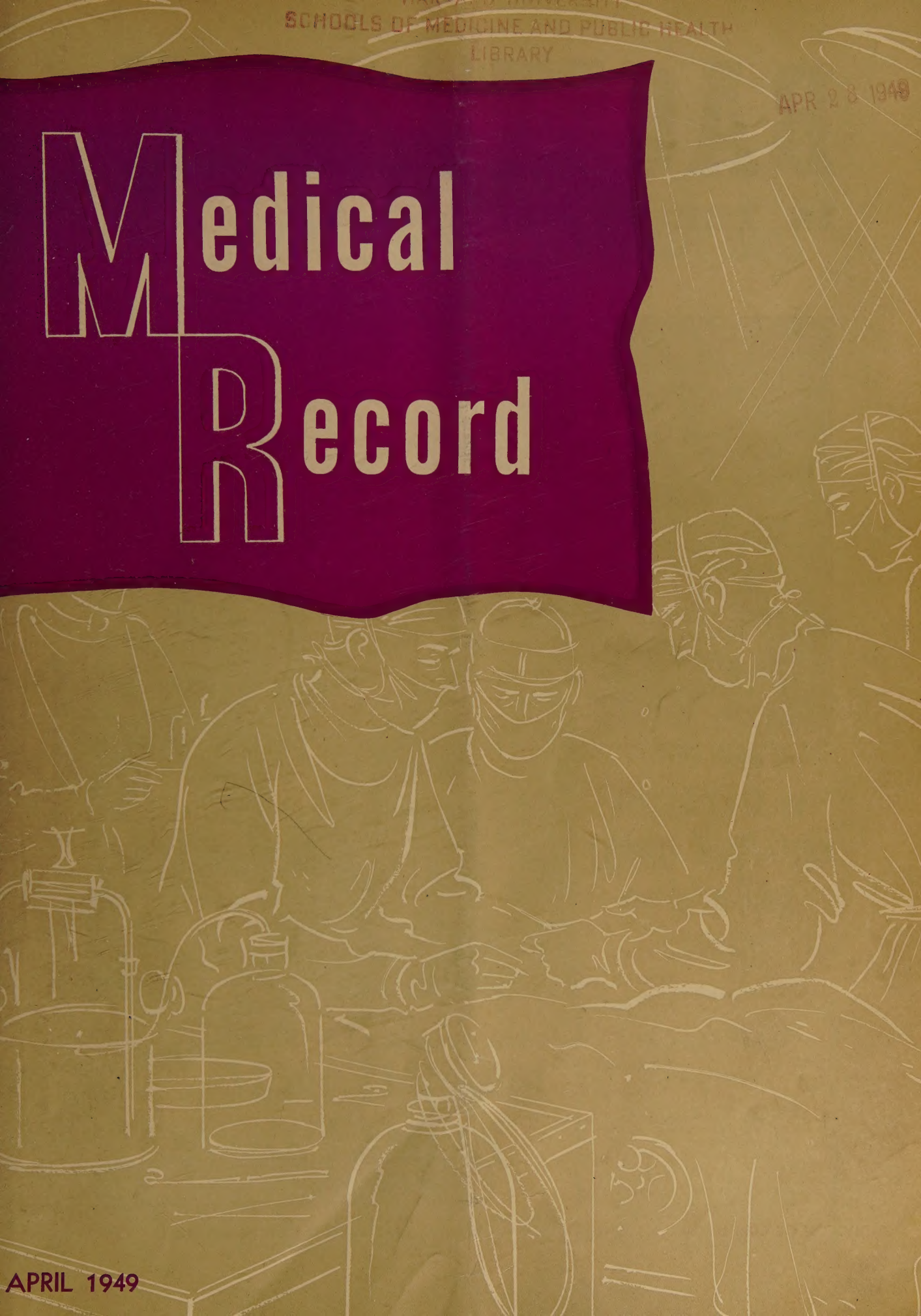

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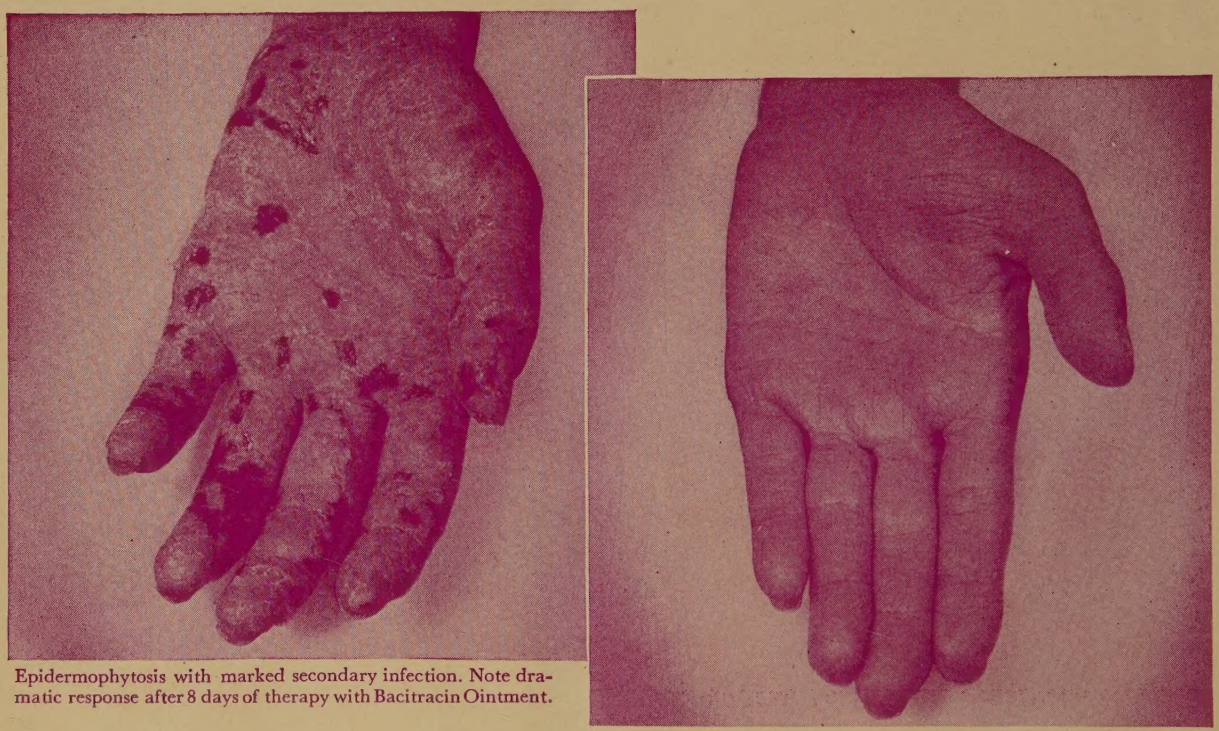

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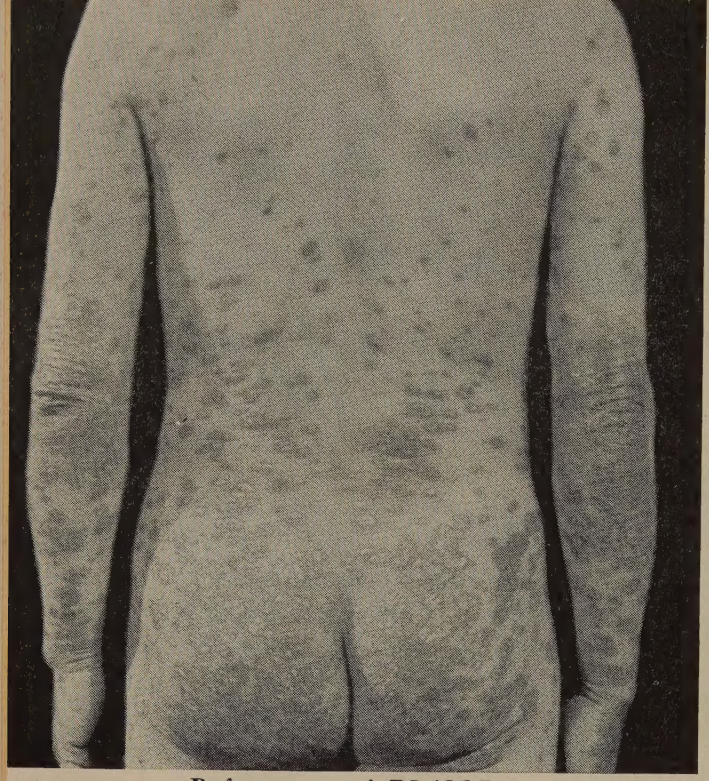

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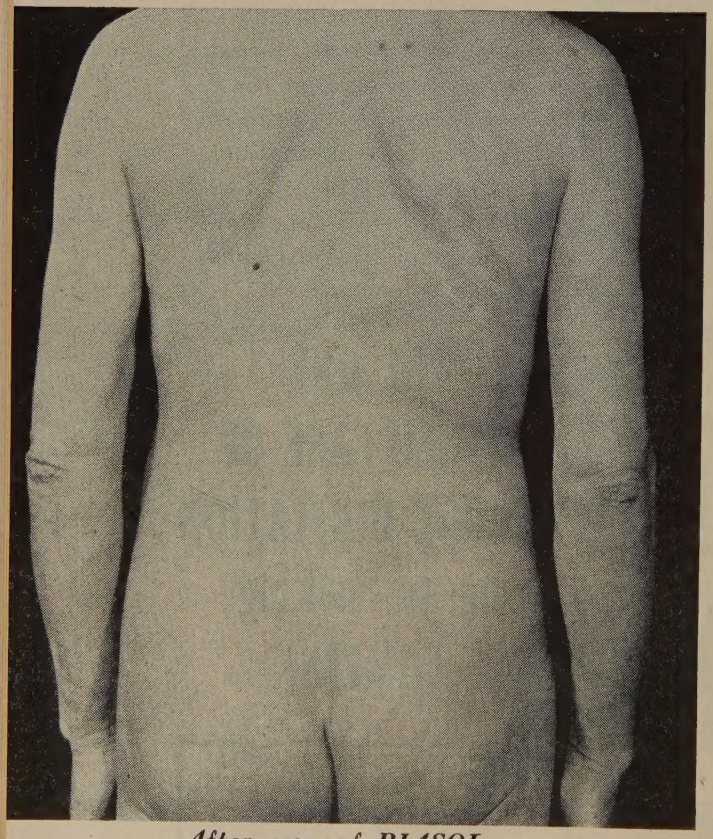

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MEDICAL RECORD

FORMERLY KNOWN AS THE MEDICAL JOURNAL AND RECORD
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APRIL, 1949

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PLANS FOR GYNECOLOGY CONGRESS

Specific plans for the International and Fourth American Congress on Obstetrics and Gynecology to be held May 14–19, 1950, at the Hotel Statler in New York, have been announced.

Preliminary program includes a week of general sessions each devoted to one of five topics: (1) physiology of human reproduction, (2) pathology of human reproduction, (3) social and economic problems, (4) neoplastic diseases of the female reproductive system and (5) obstetric and gynecologic procedures.

Afternoons will be given over to meetings of various groups represented at the Congress, including nurses, hospital administrators, educators, investigators in special fields and public health doctors and nurses.

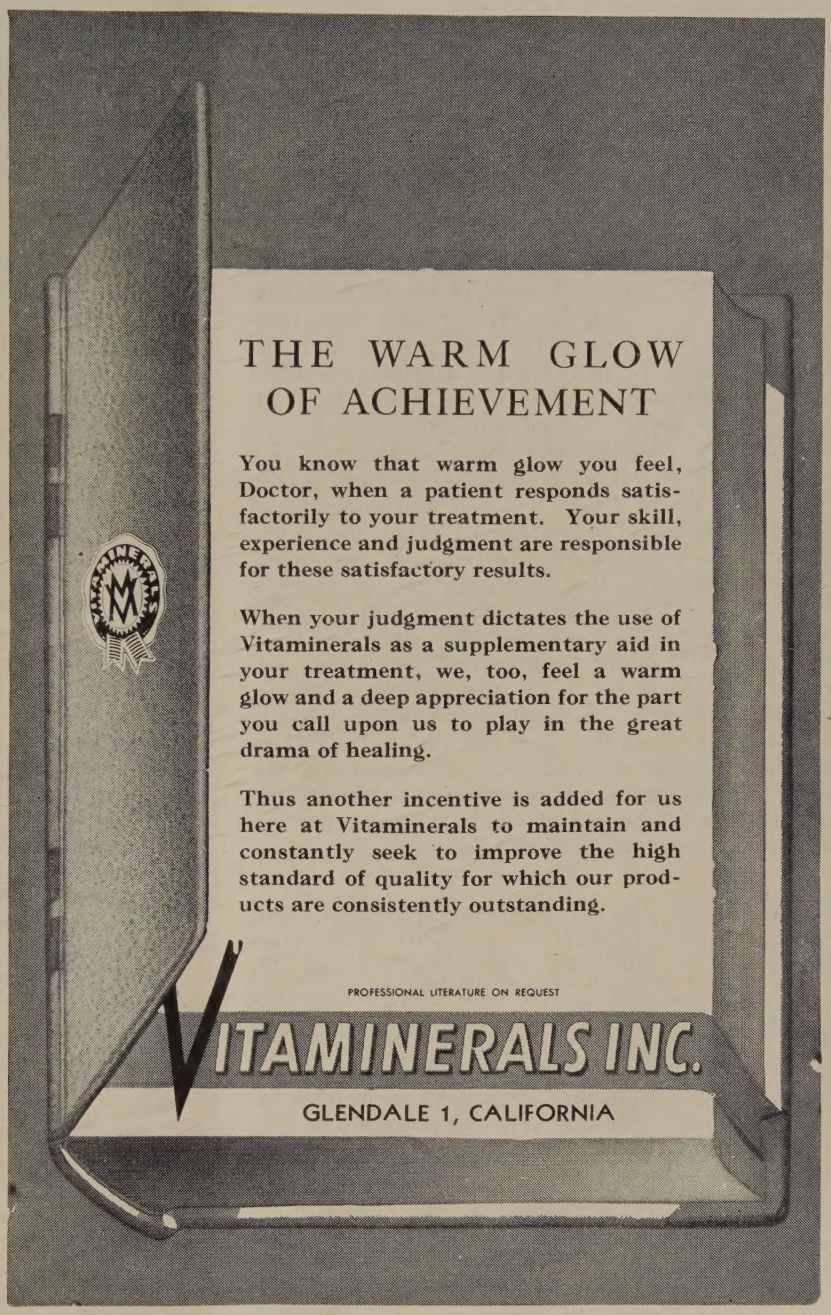
There will be both technical and scientific exhibits. Applications for space in the scientific exhibit or for time on the motion picture program should be submitted on official application blanks obtainable at the business office of the Congress at 24 West Ohio Street, Chicago 10, Illinois.

ANTIBIOTICS MEETING SET

Research scientists from all parts of the country will discuss recent advances in antibiotics research at the second national symposium to be held under the auspices of the Antibiotics Study Section of the National Institute of Health on April 11 and 12 at the Department of Agriculture Auditorium, Washington, D. C.

The Antibiotics Study section is

(*Continued on page 24*)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Disorders of the Nervous System

BEAUTIFUL—QUIET—HOMELIKE—WRITE FOR BOOKLET

Frederick W. Seward, M.D., Director Frederick W. Seward, M.D., Resident Physician Clarence A. Potter, M.D., Resident Physician

CRITIQUE

Value of cereals: The *Journal of Nutrition* contained a series of three articles by John R. Murlin and associates during late 1929 and early 1930 dealing with the nutritive value of modernistic magical breakfast foods. Foods advertised as whole wheat were not found to be that. Rolled oats, precooked oats, toasted corn endosperm, wheat endosperm, so-called whole wheat and so-called toasted whole wheat were under trial. Toasted and non-toasted whole wheat gave the same value in the bomb calorimeter. Pre-cooking affected only the digestibility of starch. Boiling improved the digestibility of starch less than it did that of protein. The clumping of cereals in open boilers retarded their digestibility. Longer cooking, say one hour, improved the digestibility of protein more than it did that of starch. Finely ground cereal left the stomach more rapidly than did coarsely ground, and the addition of bran did not slow down but might accelerate stomach-leaving time, if the material was finely ground; then compact glue-like gobs were passed along to the intestines.

❦

The great ergot controversy: Do you remember the great ergot controversy back in 1930 when the *New York World* (May 14, 1930) commended former Senator Wheeler of Montana for asserting in an article in *Plain Talk* that the Food and Drug Administration had relaxed its requirements for standards of purity of ergot, digitalis, and ether, as well as for certain serums? Senator Wheeler pounced on this so-called laxity thinking he had another oil scandal to uncover. Dr. Harvey W. Wiley, dodderingly near his death of extreme old age appeared to denounce his former associates and colleagues. The work of the Food and Drug Administration was brought to a standstill during weeks of investigation which turned up absolutely no evidence deleterious to it whatever. The foremost medical and pharmacological specialists of the land came willingly to testify in its favor. The American Medical Association was lukewarm for a while but finally came out to support the Food and Drug Administration. Yet large sections of the magazine and newspaper press thundered against it for its supposedly nefarious activities in poisoning American mothers. At the height of the investigation Senator Wheeler, who had progressed from sarcastic truculence to embarrassed apology to Chief Walter G. Campbell of the Food and Drug Administration and his dedicated associates, decamped and the late Senator Copeland wrote up a report which exonerated the Administration of evil-doing. All told this was one of the most incredible spectacles ever to occur in this field. Thousands of pages of testimony were printed and members of Congress gloriously wasted their time and that of the Administration's staff, and of many outstanding American specialists for long weeks, and absolutely nothing whatever was found amiss.

❦

C in tea: A few years ago tea packers began to claim that green tea contained sufficient vitamin C to be of some moment. In the *Journal of American Dietetic Association* for June, 1929, Helen S. Mitchell wrote: "The results of the experiments reported herein lead us to conclude that there is no demonstrable amount of vitamin C in green tea." She then advised the tea merchants to quit a line of advertising not based on fact.

❦

Telescope finds stomach cancer: An astronomical telescope has recently been used at Johns Hopkins Hospital to help locate silent stomach cancer. This is one of the least curable forms of cancer as there really are no early symptoms and by the time pain arrives it is too late. Use of the Schmidt Mirror for photofluography will, it is hoped, develop into a test as simple as the fluoroscope for tuberculosis of the lungs. The mirror gathers light and directs it at a photographic film in reduced exposure time requiring only one-twelfth the radiation required with miniature chest X-ray equipment used for stomach study. The rays pass through the patient onto a fluoroscopic screen beneath, which throws them toward the Schmidt Mirror which, in turn, beams the light to photographic film. It takes just about 10 minutes to find the telltale signs and see whether further tests are indicated.

❦

Sweden's socialized medicine: Sweden seems about to adopt a system of State medicine something like Great Britain's. Already only 13 of Sweden's 651 hospitals are in private hands; the rest are run by provincial or city governments and are financed by local or state taxation. Needy patients are cared for through relief appropriations; others pay part; operations are gratis. Doctors do not object to this. Most specialists are attached to the hospitals as state employees; some continue private practice also. There is also a comprehensive school health service, and free care for infants and expectant mothers in child-health centers. A new law is proposed to go into effect July 1, 1950, providing compulsory health insurance and medical care financed by taxation and government appropriations. All working adults will get 97 cents a day sickness pay; housewives and others will get less.

Three-fourths of the doctor's charges will then be paid by the insurance; sick persons may choose their own doctors, but will pay charges in excess of scheduled rates. The state will pay for hospitalization and certain medicines. Preventive health centers will also be established throughout Sweden. Many doctors protest this nefarious "socialization" of medicine; others protest the cost. But all seem to agree that State medicine could work in Sweden without corrupting either standards of medical care or the delicate ethics of doctors.

❦

Credulity: Some years ago, playing on the excessive credulity of the human animal, the Reliance Manufacturing Company of El Paso produced a compound of commercial lime and sulphur solution diluted with three parts of water. It recommended that a teaspoonful of this in two gallons of water, when added to the drinking water of poultry, would rid them of lice, mites, blue bugs, and external parasites generally. By practical test the Food and Drug Administration naturally found this product worthless. But the manufacturer then mischievously advanced the theory that the sulphur would be deposited in and on the skin of the fowls and surely drive away all parasites. The difficulty is that sulphur is changed to sulphides in the digestive tract and is then eliminated as hydrogen sulphide of blessed memory. Worse still, chickens do not have sweat glands, therefore cannot sweat sulfur or anything else. Moreover the pores have little toxic eliminative power anyway—even ours have very little—and they certainly would not so function in a chicken. But the stuff sold. The public bought.

❦

Water: In parts of Spain years ago, and possibly still, the peasants believed that water sleeps during the night and that you must shake it before taking a drink of it. Otherwise being suddenly aroused will irritate it, it will stir about in the body and cause intestinal misery. Which reminds us that a traveller in China once horrified the natives of an isolated district by suggesting that he go to a well and have the water thrown over him. Because water from below the surface of the earth was held to be full of dangerous yin, the dark, cold, deadly female principle that some of us undoubtedly marry later in life and which causes certain illness. However, water from which part of this yin had been driven off by the life-giving yang or male principle (hear! hear!) in sunlight was considered fairly safe.

❦

Food requirement of mental effort: The energy requirement of mental effort is just about nothing. That was found out long ago by Francis G. and Cornelia Golay Benedict. Fish may be brain food in folklore but the brain requires practically no food to do its work. Subjects were studied while solving problems and performing other mental tasks. The professor who is absorbed in powerful mental effort for one hour has an extra demand for food or for calories during that hour no greater than the extra need of the maid who listlessly dusts his office furniture for five minutes. The cloistered scholar at his books needs no more extra calories per hour of work than he can meet by eating one oyster cracker or half a salted peanut. Doggone it, Pop always said sitting at a desk wasn't work no matter what you did.

❦

Is soap and water bad? The superstition that soap and water are bad for the face arose when most soaps were high in free alkali. Today soap-making has so improved that no good toilet soap contains sufficient free alkali to be harmful. Superfatted soaps like shaving soap contain extra lanoline which tends to counteract any irritation that might arise for any reason. Coconut oil soaps lather well but the oil irritates the skins of many and should be avoided. True Castile soap is made from sodium stearate and olive oil; it is good. Cheaper varieties made with coconut oil are not. Transparent soaps are produced by adding alcohol or glycerin or sugar to the soap to prevent crystallization; they are made cold and tend to be high in alkali, otherwise they lose their brilliancy. If redissolved and resolidified their quality is improved, but the process is expensive.

❦

Mothers not true to type: Does the maternal instinct exist? Mothers by no means run true to type. Young girls abuse their dolls as often as they treat them kindly—often pulling off legs and arms. A universal instinctive interest in babies as part of the human adult female has never been proven. Actually it varies from strict avoidance to senseless adulation. It is children in a family which cause husbands to desert and the woman knows that as well as the man. Too often children are produced without reference to social need or the ability of their parents properly to care for them.

❦

Divorce: The alleged causes for divorce are usually fictional. Cruelty and desertion are the woman's favorites because adultery involves unfavorable publicity; men use adultery much more because it is sure-fire for them. All this is based on female biological integrity which, in turn, involves our curious materialistic philosophy of virtue according to which physiological factors of very minor significance altogether outweigh important mental and spiritual qualities. Collusion bans the possibility of divorce because our legal fictions demand that one party to the marriage must have been "injured" in order to give the other just ground for action. Mutual consent is heinous. It is also somehow considered better for a child to live with quarrelsome incompatible parents, seeing their worst sides constantly, than for it to live with one normal parent. Social stigma and recrimination are inherent in our method of securing divorce; this artificially creates hatred and ill-feeling which are quite irrevelant to the termination of what should be a mere civil contract. See Ruth Reed's *The Modern Family*, old but sound.

When there is a strain on nutrition . . .

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* *Philpott, N. W., Hendelman, M., and Primrose, T.: Methionine in Obstetrics, Am. Jr. Obst. & Gynec. 57:125-142 Jan. 1949*

MEDICAL RECORD

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THE HEPATOENDOTHELIAL AND HEPATOEPITHELIAL SYSTEM (HNS–HPS)

A New Method of Diagnosis and Specific Treatment of Diseases of the Liver

JOSEPH H. ISENSTEAD, M.D.
Canajoharie, New York

Cases of indefinite gastrointestinal complaints in which even a thorough physical examination does not always permit a correct diagnosis are only too often encountered in daily medical practice. In order to remedy this unsatisfactory situation, it seems necessary to improve diagnostic methods used for diseases of the liver because my own experience over many years has shown this organ to be more or less affected in 85 per cent of all gastrointestinal cases. In this connection, Lichtman (1) is to be mentioned who has stated that "liver disease is more prevalent than formerly supposed."

With the publication of the Blood Protein Test (2) clinical medicine was offered the possibility of using a reliable liver function test which in each case will state whether liver function is normal and if it is not, to which degree it is impaired. In more severe cases, especially with jaundice, the diseased condition of the liver will be rather easily detected. But it is the "relativity of the degree of disease"—another paper will give more particulars on this new concept—making exact diagnosis in beginning cases so far impossible in general practice. Therefore, simpler methods of examination should be devised for improving diagnostic results.

It was already after World War I that there was noticed a considerable increase in patients with complex gastrointestinal symptoms. Among complaints most often mentioned were: loss of appetite, fullness and feeling of pressure with soreness in epigastrium, nauseousness and eructation after meals, irregular bowel movement—often constipation—general fatigue and spells of dizziness. Age and sex of the patient were of no great diagnostic help since there were adults of every age but perhaps more female than male patients. Their past histories often revealed appendectomy and jaundice.

For quite a few years, these cases defied all attempts at causal diagnosis. Mostly there was found hypertension of 110 Mg. Hg. maximum and slight tenderness in the epigastrium for which extensive gastrointestinal X-ray series including the gall bladder did not offer any organic cause. However, when these patients were given laboratory tests their blood counts regularly revealed hypochromic anemia and the differential count showed relative lymphocytosis, often a change in eosinophiles, sometimes momocytosis, and once in a while a shift to the left. Treatment in form of medicine or injection improved the patient temporarily but on the whole, important symptoms such as abdominal fulness and soreness and irregular bowel movement could not be cleared up permanently. Finally, there arose the suspicion that just beginning impairment of the liver could be the true cause in all these cases, and slowly a special method of examination was developed to diagnose incipient disease of the liver at the office.

According to this method the examination of the liver is done as follows:

1. Patient lies on the examination couch, stretched out flat on his back. Routine examination of the liver as to situation and size is done.

2. The liver is percussed again, and the patient is requested to state whether percussion of the free border of ribs and shortly below it causes pain.

3. Routine palpation of liver and gall bladder is done, and the patient asked to breathe as deeply as possible. Even in patients with broad costal arch or high located liver, it is often possible to feel its margin. In cases of liver disease pain is felt and expressed by the patient. Slightest suspicion of cholecystopathy calls for X-ray examination of the gall bladder to exclude extrahepatic liver disease.

4. The liver region is tapped with the fingers of the right hand bent right-angled in middle joints. This is to be done very carefully but pretty strongly from the uper boundary down to the costal arch, especially exactly parallel and below it and in the region of the ensiform cartilage. If the liver is diseased the patient declares without being asked that tapping hurts him. It is advisable to apply the same procedure to the left side too. It is up to the patient to state whether he feels a difference between the two sides.

5. The most important part of every examination is palpation of the liver in left lateral position of the patient with his right arm raised high over his head. Thus, it is possible to diagnose beginning liver disease in cases where nothing can be found in supine position. The patient again must breathe very deeply, the liver moves more to the left side, it descends by deep breathing and is more accessible to palpation.

The explanation for positive results obtained with this new method of examination can be found in the fact that even just beginning liver disease causes it to develop "serious inflammation" as described by Eppinger. It leads to enlargement of the liver, to a more or less severe tension of its capsule responding with pain when touched.

This easily to be acquired method to be used in every gastrointestinal case will give positive findings in many patients proving an affection of the liver even there where urinalysis does not show an increase in urobilin bodies.

This outcome then allows the conclusion that one of the largest and heaviest organs of the human body—its chemical laboratory—the liver is to some extent impaired in its function. Briefly be pointed to the numerous tasks of this apparently most important of all human organs. It has to perform the protein-fat-and carbohydrate metabolism. It has to store certain substances or to release them into the blood stream as required. It is the barrier for toxins and poisons of all kinds, and it is an organ of secretion and excretion at the same time. Recent experiments by Bale (3) have definitely proven that the liver produces the blood proteins. The liver being the center of the metabolic system possesses because of that importance an enormous capacity of regeneration. On the other hand, 30 per cent of its functioning tissue are sufficient for carrying out its most urgent tasks. Judged by its parenchyma, the liver seems to be a double organ. In the epithelial part formed by epithelial cells the production of bile seems to be one of many functions while the endothelial tissue with Kupffer's star cells is especially yet not exclusively concerned with phagocytosis and production of immune bodies. The liver destroys effete erythrocytes and the iron they contain is used again. Thus, the iron metabolism is centered in the liver. Finally considering the importance of the liver for the water balance it is explained why very slight dysfunction of this organ may cause such varying irregularities as to affect other abdominal organs to a degree where they may get greater attention while the true cause of the disease is not discovered.

Opposite the liver, in the left upper abdominal quadrant there is located the spleen, forming a team with the liver. The examination of the liver should always be followed by that of the spleen, only then the investigation of the liver is completed. Being a ductless gland, the more or less specific substances produced by the spleen are carried via splenic and portal veins to the liver apparently unable—according to own observations—to function properly without them. It is interesting and important to note, e. g., that without sufficient supply from the spleen the liver seems to be unable to synthesize enough blood proteins. In every case it is always necessary to investigate the condition of the spleen being always enlarged and tender to touch when the affection of the liver has passed the incipient stage.

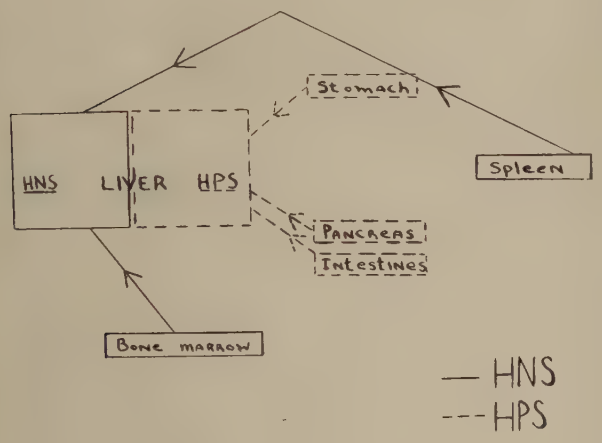
As stated in a previous paper (4) the liver is part of the hepatoendothelial system—HNS—consisting of the endothelial cells of liver, spleen and bone marrow. As reported in that paper, the HNS seems to direct the white blood picture by using certain auto-substances. Then, it must be possible to use changes of the white blood count for diagnostic purposes. It is such an extreme symptom as agranulocytosis that can be offered as proof for this statement. In the published case with two granulocytopenic attacks there was obviously present a dependence of the white blood picture on the HNS, especially the liver. The worse the condition of the liver and thus the function of the HNS, the higher was the amount of lymphocytes. By supplying system-specific substances from organs of the upper abdomen in form of an injection called "Pronor" the condition of the liver improved and lymphocytosis decreased; by reducing the supply of Pronor the opposite situation reappeared. This fact allows the conclusion that the liver as chief organ of the HNS directs the system and diseases of the liver endothelium must affect—seen systemically—the endothelium of the spleen and bone marrow. This condition will interfere with the production of those specific substances being necessary for direction of the whole white blood picture. Consequently, lymphocytes increase and granulocytes decrease. Therefore, appearance of lymphocytosis with neutropenia would mean an impairment of the HNS with liver and bone marrow most affected. On the other hand, if the differential count shows neutrophilia with lymphopenia the endothelium of liver and spleen is especially impaired.

This systemic concept can be used to finally explain the meaning of chronic lymphocytosis. It concerns those cases suffering from gastro-in-

testinal symptoms for years and repeatedly examined under same conditions showing lymphocytosis of 30 per cent and more. Here, lymphocytosis would point to a diseased HNS and its chief organ, the liver. If in such cases the liver is examined according to the new method the finding will always be positive. On the other hand, if the liver margin is hurting to tapping and touch the number of lymphocytes will be found to be abnormal. In hundreds and hundreds of such cases the dependence of the white blood picture on the HNS has been confirmed again and again.

The systemic classification is only completed if the HNS is enlarged by the hepatoepithelial system—HPS. It comprises the epithelial parts of stomach, liver, pancreas and intestinal tract. Both systems are connected by the liver containing—as double organ—epithelial and endothelial parenchyma.

The following simplified theoretical scheme represents the foundation of the two systems:



No further explanation is needed, the scheme speaking for itself.

The importance of this concept for diagnosis and evaluation of diseases of the abdomen is obvious. They should be diagnosed according to this system to be enlarged by the blood picture.

Anemia can be defined as a deficiency of hemoglobin or erythrocytes or of both of them. Pernicious anemia—hyperchromic macrocytic anemia—is caused by deficiency of the antianemic factor stored by the liver. The stomach may be involved by not producing Castle's intrinsic factor to the amount required. The extrinsic factor supposed to be absorbed from the intestines may be lost to the body by faulty absorption or diarrhea. On the other hand, hypochromic microcytic anemia is caused by deficiency of iron. In both forms the stomach is affected. In cases of pernicious anemia histaminerefractory achylia gastrica is always present, while in hypochromic anemia disorders of the stomach range from achlorhydria to achylia but the condition itself is caused by derangement of the iron metabolism. These facts point to the liver. It is generally accepted today that liver and stomach are of deciding importance for the development of the two most significant forms of anemias. Both organs must properly function if appearance of the anemias is to be prevented. It is here that the systemic consideration comes in. If stomach and liver must get so diseased as to permit development of an anemic condition, then the whole HPS must be affected at the same time, i. e., stomach, liver, pancreas and intestinal tract. The HNS is involved through the liver endothelium explaining the enlargement of the spleen and the changes of the bone marrow and thus of the leukocytes. If it is to be supposed that only a normally functioning HPS can prevent the development of a hyper- or hypochromic anemia, the conclusion was to be drawn that the HPS controls and directs the red blood picture. This fact would mean that the finding of an anemia—hyper- or hypochromic—would diagnostically point to a diseased condition of stomach, liver, epithelium, pancreas and intestines. Thus, the red blood picture would permit definite diagnostic hints and enable immediate diagnosis in reference to organs. This method would be of importance in those cases of indeterminate symptoms in which results of routine examination do not lead to correct diagnosis.

Diseases of the gastrointestinal tract involving the HPS are stigmatized by irregular function of the bowels and especially constipation is an important and frequent symptom. Very often this condition has prevailed for years having defied all attempts at treatment. Systemic consideration of constipation also offers a plausible explanation for this symptom. The intestines are considered to be part of the HPS. If their function is impaired, then stomach, liver and pancreas are more or less in the same condition leading to less production of their specific auto-substances. This fact is the foundation for the origin of irregular intestinal action as can be proven by the effect of supplying these substances. Excluding those cases with organic causes, e. g., stenosis, constipation is caused by an impaired HPS. In a vicious circle constipation, if not artificially relieved, further worsens this condition because absorption of detrimental intestinal substances must impede the sufficient production of specific autosubstances being extremely sensitive. As to diagnostic importance, constipation means a diseased HPS. Constipation is no independent disease but a symptom pointing to a state of deficiency caused by insufficient secretion of specific substances from the organs of the upper abdomen.

If medicine is asked to accept a new theory, unobjectionable proof for the new concept must accompany it. This proof will be supplied if, e. g., this theory can form the foundation for successful therapy confirming all claims made. If it is asserted that diseases of organs of the upper abdomen, especially the liver, lead to insufficient production of specific auto-substances and thus to changes in the blood picture and to such symptoms as constipation, then the supply of these same substances must normalize the blood picture and relieve constipation. The proof will have to be considered complete if the improvement does not only affect blood picture and constipation but includes the diseased abdominal organs themselves which the

blood picture and intestinal function is said to depend upon.

It is extracts and specific substances from organs of the upper abdomen compounded according to a special formula that are the means with which it is possible at accomplish the asserted therapeutic results. The compound, called Pronor, is a clear, dark brown liquid and represents an injection to be administered intramuscularly only. The patient is given one injection daily for 12 to 15 consecutive days the whole treatment comprising 25 to 30 injections. Usually, after the 12th injection, only four injections are administered the following week, the next one only three, then two only for two weeks, and the course is finished with one injection weekly.

In general respect, the most important quality of Pronor is its specific influence on the blood proteins as proven and reported in the Blood Protein Test. There seems to be no doubt that Pronor is directing the protein metabolism, and which importance this fact may have in reference to development of tumors, especially cancer, remains to be investigated.

As to therapeutic results, they rely upon several hundred acute and chronic cases treated with Pronor: from acute infectious hepatitis with or without fever and jaundice to liver cell damage after jaundice persisting with constipation for years.

Concerning particulars, it was noticed that the most important organ, the liver, was reduced in size to normal and lost its soreness during the treatment.

Jaundice, if not caused by occlusion, is extremely favorably influenced by treatment with Pronor. If there is fever it subsides after a few injections taking also care of nauseousness and inappetence. The bowel movement is regulated and even annoying itching is improved for hours. In extremely severe cases of jaundice it is advisable to administer up to three injections daily that not only will relieve the mentioned symptoms but will considerably shorten duration of the disease. In cases of infectious hepatitis development of liver cell damage is prevented.

Complaints concerning the stomach and pressure in the epigastrium stop after the first eight to ten injections. Eructation disappears, and patients pretty soon report that they eat with appetite again. In an interesting case with histamine, positive achylia gastrica free HCL was found four weeks after treatment was started.

One of the most important points to the patient, constipation, already disappears in some cases after one injection, and he being used to steadily take laxatives is surprised at having an evacuation of his own, day after day. In some cases, patients have regular action for a few days, and then report it to have turned irregular. This fact is not surprising because in cases of constipation of 15 to 20 years duration the body must first learn again to produce those specific substances before succeeding in making its bowels to function normally.

In cases where urinalysis shows increased urobilin and urobilinogen the treatment brings the amount of these substances back to normal.

The same change is taking place if the blood serum shows an increase in bilirubin. By using van den Bergh's test it will be shown that if it is directly positive and indirectly extremely higher the direct test is negative pretty soon while the indirect one is more slowly reduced to normal values.

The improvement of the involved systemic organs is accompanied by normalization of the blood picture. It is not surprising in this respect that a strict dependence exists on the condition of the organs of the upper abdomen. Apparently they play the deciding role for the quality of the blood.

As to particulars, the red count pretty soon shows an increase in erythrocytes and hemoglobin. Anemias with less than 3.5 mill. of red cells will return to normal values within six to eight weeks.

For the differential count the connection with the organs of the upper abdomen should be proven by the reported case of agranulocytosis. In its clarity it must be considered a natural experiment. Here, Pronor brought striking improvement about. Its influence on lymphocytes can take place in two directions. If relative lymphocytosis amounts to more than 50 per cent, then it usually decreases directly, if it is below 50 per cent, there is an increase introducing the following reduction of lymphocytes sometimes to below 30 per cent. But it must be pointed out that this result cannot always be expected in patients above the age of 55 years because the higher the age and the more chronic the disease the more difficult it is to get a reconversion in the function of the body. In such cases the organs of the upper abdomen have been diseased for many years, and transformed into a state of severe dysfunction. The supply of autosubstances is not only a therapy of substitution but it enables—as experience has manifold shown—these organs to rebuild their function if this is still possible from an anatomic-pathologic point of view. Here, fundamental differences exist in reference to sex hormones the production of which physiologically decreases in higher age and finally stops completely. If the tissue of the organs of the upper abdomen is considerably damaged not even the most effective stimulants will bring the production of specific substances about—a cure is impossible then. But even in chronic and severe cases treatment with Pronor clears up many disturbing symptoms yet the blood picture will then show that perhaps an improvement but not a complete normalization has taken place.

The eosinophiles missing in many cases return with regulation of the bowel movement. Whether there is a definite dependence further observations will have to show.

The shift to the left if caused by inflammation among organs of the upper abdomen disappears after a few injections.

As to the diet during the treatment with Pronor, it is advisable to make the patient keep the regular diet for gastro-intestinal cases. There is, however, one direction that must absolutely be complied with: it is the supply of dextrose. The patient must be ordered to take one heaping tablespoonful of dextrose in water one-half hour after the injection and the same amount again after another

hour, i. e., one hour and a half after the injection. Glycogen is, as known, a definite protective substance to the liver and if this organ is diseased there very often is a deficiency in this important carbohydrate. If the patient is working his need for glucose will be even higher and it is for these reasons that during the treatment the patient should take about six tablespoonfuls of dextrose daily in any vehicle he likes to. It stands to reason that cases of diabetes mellitus are excluded from the therapy with Pronor.

Besides dextrose, egg yolk is another protective substance to the liver. Cholecystopathy excluded, it is advisable to prescribe one or two yolks daily, either raw, boiled or stirred up in soups. Alcohol, coffee and nicotine should not be used but toward the end of the treatment these items may be permitted again in smaller quantities.

If these directions are conscientiously complied with the injections of Pronor will cause neither local nor general reactions.

The above described method of diagnosing and treating diseases of the liver is offered as a supplement to the procedures used for this purpose so far. Its application is simple, and results are very often surprising. The newly gained knowledge about diseases of organs of the upper abdomen only means a beginning though, and it can be surely expected that important results will be obtained in the future.

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STUDIES OF GLAUCOMA

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In recent years glaucoma has become a matter of increasing concern. Conflicting views on various aspects of the problem have been expressed by different investigators and oculists. Thus we find a critical survey of this complex subject, especially on early diagnosis and surgical procedure in our current medical literature. Generally speaking (1) no real scientific progress has been accomplished in the field of etiology; and the theory most generally accepted for the last several decades still stands. In its surgical technique on the other hand, a good deal of progress has been made. The recognition during the past years of the fact that glaucoma is essentially a surgical disease, or at least from a proper appreciation as to when a case no longer responds to medical methods and is immediately given over to surgery for the purpose of saving sight, should be recorded as true progress in the management of this formidable eye disease.

Turning back the pages of our complex etiological theories about glaucoma it would be well, I believe, to bring out the principal points of above theories that are more or less accepted by most of us and in order to refresh our minds on the subject.

Briefly stated: The vitreous humor is believed to be formed in the choroid membrane and ciliary body and passes through the hyaloid membrane into the vitreous cavity. From there it filters through the suspensory ligaments into the posterior chamber where it becomes watery and is called the aqueous humor. After emerging through the pupil into the anterior chamber it is believed by many, in theory, to pass through the spaces of Fontana (formed by the dividing of the tissue from membrana Descemet in crossing from the corneal margin to pass into the base of the risi and constitute the ligamentum pectinatum iridis) into the canal of Schlemm (a ring-like canal of 0.3 by 0.5 mm. in the first tunic of the eye).

By means of the spaces of Fontana it connects with the anterior chamber on one side and directly communicating with the anterior ciliary veins on the other. The angle formed by the iris, (2) the pectinate ligament and the posterior wall of the canal of Schlemm is called the filtration angle; and it is obvious that any condition which interferes with or obliterates this angle as in eyestrain due to hyperopia and perhaps uncorrected or faulty refraction and eyeglasses, etc., will prevent the drainage of the eye whereby an accumulation of the aqueous humor will occur, and an increase of intraocular tension is the natural consequence—glaucoma.

In cases of primary glaucoma the filtration angle is either closed or compressed and the iris is either adherent to the cornea and ligamentum pectinatum or pressed against them. The obliteration of the filtration angle is due primarily to pressure of the ciliary processes against the iris, and the theoretical explanation of increased eye tension is the retention of intra-ocular fluid.

Problems in the Early Diagnosis in Incipient Cases

A discussion of incipient or preglaucoma should be of interest to all of us. If we should describe and dwell a good deal on obvious glaucoma it surely would be a waste of our valuable time. Hence our emphasis on incipient and primary or simple cases with special reference to early diagnosis and surgical procedure. We are not probably so interested in inflammatory glaucoma—a condition too evident to the observer; we are not too concerned with a condition well established and diagnosed by a number of oculists, where the fields and vision have been greatly diminished, disks cupped and grey and the eye obviously hard to the touch; nor are we very interested in the pathology, bacteriology or chemistry of glaucomatous tissue in this paper. We feel if we are to wait until the well known classical symptoms described in text books appear we are undoubtedly condemning patients to certain blindness. If a diagnosis of impending glaucoma could be made in advance or before there is loss of peripheral fields of vision or before a paracentral scotoma has developed we surely would have a right to feel proud of our achievement.

But this would not necessarily mean that we are without problems relating to the early detection and diagnosis of this disease. Why? Because glaucoma is very prevalent in the presbyopic age; it is self-evident that this type of patient pays little attention to interpretation of his symptoms outside of his manifest refraction. Where does he go for his refraction—until he has five pairs of eyeglasses? How does he manage his headaches, if he has any? Who is giving him "eye drops" and tinted lenses? Is such patient influenced by the radio, newspaper or magazine in obtaining drops and tinted lenses? More important than the self-medication and the visits to optical shops are the human psychological peculiarities—fear and the dread of consulting an eye surgeon and incurring expense. Here again the patient is unknowingly postponing the correct diagnosis and treatment and invites disaster.

Of course, we should not think of every presbyope as a case of glaucoma, but rather regard him as a potential intraocular hypertension patient. In connection with this subject I want to quote three oculists whose valuable statements may be in order.

(3) "Simple glaucoma is a type of disease which occasions all of us much perplexity and trouble. One outstanding difficulty common to most of these cases is to obtain the intelligent cooperation of the patient. It often happens that our chief difficulty is to manage the patient rather than that of treating his disease. Most of these patients want immediate results and many of them feel that a proper fitting of glasses is all that they require. Since they experience no ocular pain and their eyes give no external evidences of inflammation they can see little practical value in undergoing the time consuming routine examinations—visual fields, ophthalmoscopic and tonometer tests of the specialists coupled with the general physical examinations of the internist. Experience has proven that this is the attitude of most of this class of patients. In view of this, I have found it of value at the outset to take time enough to go over the details of the case with the patient, stressing in particular the necessity of frequent observations over a more or less extended period, with the idea of enlisting his intelligent cooperation. I have found this plan to prove helpful to both the patient and to myself." Thus spoke a prominent oculist about simple but important problems in the management of glaucoma cases.

I am continuing the second quote: (4) "I think we should always bear in mind that any eye patient who consults us may at times have hypertension. Ophthalmologists in general are aroused to the importance of the constant lookout for this insidious condition, and this mental attitude prompts us to make tests in many cases which may not present the characteristic and typical features of glaucoma. A statement from the patient whose refraction has been perfectly corrected that at times he has blurring of vision in the course of reading should suggest examination of the tension. In cases of simple glaucoma we do not frequently have the characteristic signs of the rainbow phenomenon when looking at a light. Frequently in elderly people we encounter this condition that should arouse suspicion. In many cases the rainbow vision may be caused by a thin layer of mucous worked into a kind of an emulsion across the cornea thus giving the same symptoms that we find in congestive attacks of glaucoma. Simple irrigation of the eye with boric solution is sufficient to differentiate this."

The above author continues and I am quoting him in parts as follows: ' It may be well when we speak of the clinical varieties of glaucoma to follow the suggestion of Elliott and group them in two main classes, viz: congestive and noncongestive. It is the opinion of many students of this subject that these two varieties overlap and that the congestive may grow out of the simple type or noncongestive variety if certain conditions arise. Such favoring conditions might be chilling of the body, excessive physical exertion, unusual emotional excitement, worry or grief. These are recognized to be prominent contributory causes of this condition."

(5)"In aiding the early diagnosis of glaucomas for some time past we have been putting our patients in the hospital and measuring the tension every four hours. It is of great value to take the tension of the patient at eight o'clock in the morning, noon, 4 P. M. and at eight at night. The patient is started without any miotics whatever. During the first twenty-four or thirty-six hours the tension is measured every four hours, the physical examination of the patient is completed, and during that length of time the patient is put through the so-called Seidel dark room test. Seidel found that certain individuals in the earlier stages of a noncongestive glaucoma will develop an increase in tension after a stay in a dark room for a sufficient length of time to permit the pupil to pass beyond the definite given threshold for that individual. In other words, when the pupil dilates to a definite

point the anteriorposterior diameter of the iris has become sufficiently thickened so that the chamber angle is obstructed enough to cause an increase in pressure. This is almost characteristic of a glaucomatous or preglaucomatous eye. It is a test that is very simple for you to carry out in the office simply measuring the pressure of the eye tonometrically before and then putting the patient in a completely dark room for an hour and measuring pressure at the end of that hour. At the end of the hour the tension will have increased anywhere from six to fifteen millimeters of mercury. At the end of the thirty-six or forty-eight hour period in which no miotics were used, the patient is then started with the installation of one-half per cent of pilocarpine at varying intervals, with the tension measured in the same way. The next day the concentration of pilocarpine is increased to one per cent and, if necessary, on the subsequent day eserine may be used as well. In this way we know what the pressure will be in those eyes at varying times of the day under varying conditions and under miotics of varying strengths." Yes, and to the foregoing we may add several case reports from the records of my own private practice.

Case Reports

Case 1. While a patient was in North Chicago Hospital for enucleation of the left eye for absolute glaucoma (blind and painful eye) he had an acute attack of glaucoma in the right eye which subsided within a day because of prompt pilocarpine treatment. Tension varied between 19 and 31 (Schiotz) until I enucleated the blind eye; tension then became never greater than 20 in his right eye. After this attack the nerve head appeared slightly pale, but was in all respects quite normal. Scotometric observations revealed nothing unusual—no scotomata; and within two months ophthalmological findings were negative.

Case 2. A man, aged 56, came to the office complaining of failing vision and headaches and insomnia. He had been well until six months previous, when he noticed that his vision was becoming blurred. Two months later he began to have intense headaches daily for about six weeks, which then occurred two or three times a week with less severity. The patient had shallow anterior chambers; halos had from time to time been seen around lights; the nerve head had revealed cupping and marked tension was observed to the touch. The patient presented a picture of emotional upset —nervous, anxious and gloomy—and continually mumbled about having his head X-rayed. Yes, he had consumed large quantities of aspirin, phenobarbital and other sedative and analgesic tablets. Taking into account the headaches, insomnia and his general nervous condition, I sent him to a hospital for a general check-up and further ophthalmological study. The blood pressure was syst. 100; diast. 80; pulse 72; temperature normal; hemoglobin 78 per cent; reds 4,440,000; and the whites 8900; Wasserman negative. Urinalysis normal as to specific gravity, reaction, sugar, albumin or pus. X-ray of the head showed a normal stella turcica without evidence of unusual shadows. The basal metabolic rate was normal. Teeth and tonsils were normal. Scotometric observations: Right eye—there was an absolute scotoma in the upper field which extended from the vertical meridian toward the blind spot. Intensive treatment with pilocarpine was prescribed with very good results—probably temporary in nature.

Case 3. A woman, aged 58, reported to the office because of headaches and dimness of vision. She had experienced a good deal of bilateral temporal headache, on and off, for about three years from the date of her first consultation with me; this increased in severity and became more intense in the morning. There was never any associated nausea or vomiting. Shortly after the onset of headache, the patient noticed intermittent eyestrain "rainbow vision" and often diplopia. In February, 1948, tension was 31 (Schiotz) in the right eye and 30 in the left. The optic disks showed a slight indication of glaucomatous cupping especially in the right eye. In October 1948 a nasal step of 15 degrees extending from 45 to 65 degrees was found in the right eye. A checkup by an internist revealed that the patient's systolic blood pressure was 125, the diastolic 80; the pulse rate was 74 and the temperature was normal. The specific gravity of the urine was 1.230; it was acid in reaction and contained a slight amount of albumin and a lesser amount of pus with five cells to the microscopic field. The hemoglobin was 78 per cent; the red blood cells numbered 4,500,000 and the whites 8,000. The Wassermann reaction of the blood was negative. An X-ray of the head did not reveal any change of the sella turcica or abnormal shadows near the chiasm or any other structures. The basal metabolic rate was —10 per cent. Ophthalmoscopic examination showed the vision to be light perception O. U. (without refraction); 20/40 with corrected refraction O. U.; and of course, the optic disks revealed glaucomatous cupping as previously described in this case. Neurologic examinations gave negative results.

Treatment and Management of Glaucoma

Preliminary and general remarks: in the treatment and management of glaucoma we naturally think of the primary form of which we have two types—the noncongestive or simplex and congestive or inflammatory. We shall omit the very advanced or fatal form (blind painful eye)—a condition necessitating an enucleation for the good of the patient's other eye, health, mind or his very life. In connection with the above classification of this disease it would be well to remark that some observers almost deride the idea of the appellation secondary glaucoma. They argue that all types with the possible exception of the simplex type are secondary—but secondary to what is a question very difficult to answer. So in this brief review on the subject and with the present knowledge concerning the etiology and pathology of glaucoma simplex so uncertain it would appear that we are quite fortunate in being able to direct our attack against its most prominent symptom—the increased intraocular pressure.

Fortunately, when one is successful in reducing such increased ocular tension most of the cases experience more or less relief. On the other hand from a scientific standpoint it of course depends on what you base your belief in the patient's relief or what you mean by a cure; is it the relief of the immediate or permanent symptoms or the removal of the causative factor? The patient is very interested in the relief of the symptoms and quite naturally in the prognosis; but regardless of the technique in the treatment—medical or surgical—can a responsible physician really render a positive prognosis in such cases? Some of our medical specialists believe that nonsurgical treatment is indicated in certain of the noncongestive type and in certain of the early congestive type providing the tension still remains within reasonable lower limits and the visual fields are not too contracted. Also, if we could count upon the patient's intelligent cooperation—if we could prevail upon him to be calm and control his emotions —if we could impress him with the seriousness of the condition and the probable prognosis—if we could have his wholehearted cooperation in the management of the case instead of impatience with diagnostic procedure—even among the so-called intelligent classes—part of the battle would have probably been solved. Therefore to advise a nonsurgical therapeutic course is to undertake not only the medicinal, dietetic and hygienic management of the case but also the psychologic and emotional control.

Nonsurgical and medicinal therapy: Before instituting medicinal therapy or any other means of treatment in glaucoma simplex I would like to emphasize again in the briefest form the following in connection with this form of glaucoma: This is a chronic primary affection, the only symptom of which is impairment of sight. Increase of intraocular tension may or may not be present at all times and may be absent altogether according to some observers. Such form of glaucoma develops slowly and insidiously and may require many months to destroy the sight. Like inflammatory glaucoma, it affects both eyes, one shortly after the other. Since pain and inflammation may not always be present, the patient may not be aware of the disease until the visual field becomes considerably contracted, the central vision remaining good for a long time. Therefore, it is interesting to note when a patient presents himself to us for the first time he complains of a "cold" in the eye; he had been refracted four or five times by a nonmedical man; he had suffered a peculiar type of headache, insomnia, etc., etc. It is naturally then that the ophthalmic study and complete ophthalmoscopic examination begin. From the standpoint of medicinal preparations for the purpose of reducing the intraocular pressure pilocarpin and eserine are still very important. In the use of miotics there is no great mystery to overcome as to dosage and length of time to be used other than to tone down the tension. Lastly, should the condition that brought about the increased tension continue and cause changes in the lens, uveal tract, optic nerve and retina and ultimately result in blindness in spite of reduction of the tension, immediate surgical operation must be resorted to. General treatment in connection with the nonoperative procedure comprises a number of drugs and methods besides the miotics in glaucoma. May (*Manual of the Diseases of the Eye*) advocates the use of compresses, sedatives, large doses of sodium salicylate and dionine in certain types of this disease; he also advocated massage of the eyeball in simple and chronic forms.

Surgical treatment: Regardless of our conclusions about the nonsurgical method there will be certain conditions in which we will have to rely on operative surgery in the treatment of glaucoma. And since we know that we cannot always arrest the progress of a condition which ends only in blindness, what in the final analysis are we to do surgically for such patient? As far as we know from observation and medical literature all the symptoms are seemingly the result of the intraocular tension. It would seem naturally obvious, therefore, that the important role of surgery is to perform that part which will tend to reduce this pathologic ocular pressure—by one technical method or another. A number of scientific surgical operations have been developed for this purpose and as far as we can classify them, we may as well think of them as two or three methodical groups available which offer us some degree of hope in the surgical treatment of glaucoma. Thus we have:

Surgical procedure with the idea of bringing about drainage to the eye by relieving the crowded condition of the iris angle—an attempt to reestablish the physiological channels of fluid drainage through the spaces of Fontana and the canal of Schlemm. Here we think at once of the classical broad iridectomy, deep iridectomy and their various modifications. Some would also include in this class the cyclodialysis operation of Heine.

Then we have the new avenues of drainage through extraocular tissue. This has been accomplished by scleral trephining, iridencleisis and transfixing the iris or sclera into wounds.

Now, if our logic is still to adhere to the conventional teaching (most of us do) that the drainage angle is the real causative factor of the entire glaucoma problem, then naturally one way is open to us—surgical procedure directed to do away with the pathology existing in that local anatomical region. Therefore we find that most observers and authorities during the past fifty or sixty years have advocated surgical interference; and the literature reveals that in a great number of glaucoma cases operative procedure results in regulating the tension. Moreover, about sixteen or eighteen different forms of surgical techniques have been devised and perfected for this purpose. However, there is a wide difference of opinion as to the actual necessity for so large a number of surgical operations, especially in connection with primary glaucoma. I shall, therefore, touch upon several important procedures—their indications and contraindications in primary glaucoma.

First—Von Graefe classical operation or iridectomy. Some of the German oculists observed that following fistulizing operations there were often visual field losses later on; there appeared all sorts

of complications and most of all the risk of late infection. This prompted them again to become favorably disposed to iridectomy. Some of the European eye surgeons recommended the peripheral iridectomy on account of its relative safety, but we know now that its effect is not permanent. The majority of ophthalmologists in our present era, however, practically all agree that iridectomy is the operation of choice in acute glaucoma—preceded of necessity by an operation like sclerotomy to lower the intraocular tension—if the pressure is very high.

Second—Fistula formation procedures. The sclereto-iridectomy of LaGrange has been a good deal superseded by the Elliot trephine operation, although still practiced by many of the European and American oculists. One author states that LaGrange himself advised limiting the use of his technique to eyes with a tension of not more than forty mm. of mercury. There is still a wide difference of opinion as to the real indications for an Elliot trephine operation. Some are highly in favor of his method in conjunction with iridectomy.

Third—Cyclodialysis. A variety of complications and dangers resulting from fistula operations have led to a wider use of the iridectomy and therefore the persistent study and use of the iridectomy procedure. It was agreed by many observers that the cyclodialysis operation is not without danger; but reports of the effectiveness of this operation are very confusing. Some of our authorities are actually skeptical, especially in connection with permanent results.

In summarizing the results of glaucoma surgery careful and continuous study and observations must be made and recorded on each individual patient. Following an operation a period of about three or four years should elapse and during this period periodical visual field tests, etc., should be made. The tension should be studied and recorded several times daily—preferably four or five times, so as to observe the tension curve. Finally, the postoperative management of each individual case must be studied and the proper therapy instituted—medicinal, hygienic, dietetic and psychic.

Prognosis

There was a time when it was believed that spontaneous recovery was an occasional occurrence in patients with certain types of glaucoma. But to look forward for such miracles in the light of present day experience by experienced ophthalmologists would of course be sheer nonsense. While improved conditions do occur temporarily in certain cases under favorable circumstances and the time required to destroy vision varies with each individual case, it must not be taken for granted that glaucoma, if not properly treated results in anything but total loss of vision. Thus, generally speaking, if properly treated, the prognosis of acute glaucoma is often favorable; it is doubtful in simplex and infantile glaucoma, and unfavorable in the other varieties.

Summary and Conclusion

Attention is called to several outstanding features in connection with treatment and management of glaucoma.

1. It must be emphasized that the disease is one of the gravest conditions that the oculist is called upon to treat. Furthermore, it must be remembered that if any definite success is to be obtained, even in small measure, it will come perhaps from the proper prodromal care and from the choice of the indicated surgical operation at the right time.

2. The importance of early examination, correct diagnosis, recorded study, refraction and proper eyeglasses (if needed) should never be overlooked or minimized.

3. Seemingly trivial eye conditions produced by injuries should never be left to chance; careful check, especially as to tension and proper medical measures are things to be depended upon.

4. It is quite obvious that the prognosis of many a case of glaucoma depends more or less on early diagnosis. That the nonoperative treatment is an expedient only in certain types of the disease is by now well known, according to a large number of observers; and few experienced ophthalmologists expect a cure under such treatment.

5. The conservative and cautious management of glaucoma, besides refraction, medicinal and surgical therapy, by means of hygiene, diet, psychic influence in connection with the emotions, etc., is based on physiological, clinical and pathological considerations which are, of course, in general acceptance at the present time throughout the world.

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PRESSURIZED OXYGEN THERAPY

Final Report of a New Method

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In the MEDICAL RECORD of April, 1945, a preliminary report of a new method of administering oxygen was presented.

Since that time, the work was continued until August, 1947, when it was interrupted by the untimely death of my friend and colleague, Dr. Robert Reeves Hays. I feel it a professional obligation not only to the late Dr. Hays but also to the medical profession to present such data as are available together with conclusions such as I believe would have been acceptable to Dr. Hays.

The first 21 case histories were supplied and written entirely by Dr. Hays. Case histories XXII and XXIII were written by the author who administered the pressurized oxygen to these patients.

We present these additional data in the hope that a niche in the medical profession may be found for this new tool for administering oxygen. We do not feel this method will ever replace other methods whose effectiveness have won the confidence of the medical world.

We do feel strongly that where other methods of administering have been inadequate we submit this method as a fast method which offers great possibilities.

The oxygenation cylinder was originally developed for counteracting certain reaction in stratosphere flying. It is conical shaped with spherical end, seven feet long. A longitudinal opening of five feet is provided by an airtight zipper. Inspection windows four inches in diameter, permit visual observation of the patient and help prevent claustrophobia. A gauge of O to five pounds registers the internal pressure and a pressure regulator provides automatic pressure control. It has been found that two pounds pressure above atmospheric is comfortable if the patient swallows frequently to alleviate the effect of pressure changes on the ear drums. Pure oxygen is used and a flow sufficient to carry away the carbon dioxide through purging. The average treatment lasts forty minutes, though some were extended to an hour. The oxygenation cylinder weighs but fourteen pounds and may be wrapped up in a carrying case ten inches in diameter and twenty inches long. A standard two hundred cubic foot cylinder of oxygen with conventional regulator is recommended.

Attention is directed to the relationship of absorption of oxygen to the blood in the lungs and pressure. The rate of oxygen absorption by the blood in the lungs is directly proportional to the partial pressure of the oxygen in contact with the surface of the lung or the alveolar pressure. With the mask or tent the rate of absorption is limited to essentially atmospheric pressure. In the oxygenation cylinder the rate of absorption may be increased beyond that which is now currently used. Hence we have a new tool for oxygen therapy, impressing oxygen not only on the lungs but on the entire surface of the body under controlled conditions. In the new oxygenation cylinder all one needs to do is to close a zipper and turn on the oxygen supply slowly. About one minute should elapse in bringing the cylinder up to two p.s.i. An automatic control valve maintains the pressure at the desired value. At the conclusion of the treatment one minute should elapse in decreasing the pressure to atmospheric before opening the zipper and removing the patient.

We present 23 additional case histories.

I. Mrs. I. S. 7-27-44.

Aged 32, divorced, typist by occupation. Patient became acutely ill four days previous to this time. She was delirious, disoriented, hysterical. The physical and neurologic examinations were essentially negative except for blood pressure of 100/80. Laboratory examination showed hemoglobin of 78 per cent; red blood count of 3,096,000; color index one. She was treated by means of tonics, increased food intake, such hydrotherapy as could be had in the home. She was given large doses of Vitamin B Complex by mouth and parenterally. Weight was less than 100 pounds at the beginning of treatment. She was continued on this regime throughout the course of her illness. She began to show steady gain in weight. The hallucinations persisted. On 9-26-44, during a visit to Mr. Rhein of Linde Air Products and with Mr. Van Orman present, she was given a conventional oxygen treatment of two pounds for forty minutes. On the next visit the patient stated that she felt a great deal more calm after the oxygen treatment and she was entirely free of nervousness and jittery feeling and that she felt rather elated. The clinical improvement took quite a turn for the better following this. 10-14-44, permission was given her to return to work on full time; she had been for some weeks on a part

time basis. Patient dismissed from treatment as recovered on 1-20-45.

It is my feeling in this case that no conclusions can be drawn since the patient had only one treatment. However, it was notable that she experienced a change in mood following the treatment.

II. L. J. G. 2-2-45.

Age 27, married, a chemist in hard rubber. X-ray technician and laboratory man. Case history of having always been nervous. Recently he was rejected for Army service which caused him some suffering and upset. He has had a great many phobias. There is a great deal of confusion, interference with the train of thought and attention cannot be gained or held. Diagnosis was psychoneurosis. Statement was made with the mental reservation that the patient is a borderline psychoneurotic. In addition to the basic psychoneurotic condition, the patient has been exposed continuously seven days a week to the vapors of the various solvents used in rubber chemistry. He has had a great many attacks of vomiting and fainting spells and is generally weak and run down. Blood pressure was 108/80. He was given a conventional treatment. The cyanosis and the dusky appearance of the skin and mucous membranes disappeared and temporarily he seemed much improved. However, the following day, the patient called the office and seemed in a panic state and uncontrollable and claimed he was fearful of dying. It was recommended to his family that he be committed to a sanitorium for further care.

III. Mrs. B. A. 5-26-44

Age 44, married, a rubber worker in the tube room. This patient came to the office in a confused state simulating drunkenness. The train of thought was erratic. She was unable to concentrate. There was dizziness, memory defects for recent events was present. She frequently missed appointments by hours or days. She was irritable and having a great deal of trouble with her husband. On 6-15-44 improvement under estrogenic hormone was notable, however, it was recommended that she consider oxygen therapy. She wished to think this over for a few days and on 6-21-44 the first conventional treatment was given 6-23-44, the second treatment was given. She reacted well to each treatment. During the first treatment she slept most of the time in the bag and the same in the second treatment. Following the second treatment the degree of confusion was less, mental reactions were much more acute, conversation much more rational and logical. She continued to improve and was dismissed from treatment on 7-3-44.

IV. Mr. C. J. B.

Development engineer with marked claustrophobia, age 54, with long history of neurologic manifestations. The diagnosis was made of mild manic-depressive of the depressed type. 9-2-44, patient consented to try oxygen treatment. He stated that he felt quite euphoric and lifted up after the treatment. He fumed and fretted, however, during his confinement in the oxygen chamber.

V. J. D. G. 2-12-45.

Patient age 43, married, a worker in the rubber factory in development and testing. History is that he has been exposed to considerable amounts of solvent fumes. Recently he has had a thumping in his head, some disturbances of vision. He is dizzy on standing. He has noticed for the past six months that his memory is not so retentive as formerly. He forgets names and makes mistakes in his work. Physical examination showed that the knee jerks were sluggish and he has the remainder of a skin eruption which was said to be caused by synthetic rubber and solvents. He was given an oxygen treatment on this day of forty minutes at two pounds pressure. There was a noticeable clearing of the skin and mucous membranes and the sclerae of the eyes. He felt somewhat relieved of the thumping in his head. He was given benzedrine sulfate, milligrams five, twice daily, and Vitamin B Complex capsules t.i.d. On 2-15-45 he was given a second treatment and sent for a two weeks' vacation into the country with relatives. 3-3-45, he returned from the vacation. He stated that he had improved much as far as the symptoms go. The thumping and dizziness have to a large extent disappeared. He feels more alert mentally and states that he thinks his memory has improved quite a little. He was advised not to return to work in any occupation which would place him in contact with the fumes of gases, and to take at least two more weeks in the fresh air before he attempted to begin any other job.

VI. Miss Ruth D. 3-10-45.

Miss Ruth D., a divorcee and a rubber worker. She worked in solvents for one-half year and then was taken out because of the state of her health. She felt well during the period in which she worked in another department. Seven weeks ago she began working in solvents again. She is exposed to the fumes of benzol and others which she does not know. Her work consisted of cementing valves. For some weeks past she has been having dizzy spells; has fallen several times; she becomes nauseated almost to the vomitting stage. There is some numbness of the hands, face and feet. She seems sleepy at all times. She eats well. She has difficulty in concentrating and doing arithmetic. She has feelings of unreality and has often felt the urge when driving her car, to drive off the road. Physical and neurologic examination showed a blood pressure of 110/80. She is small and thin. There is a muscular atony. Reflexes are present and approximately normal. There is some aching along the course of the larger peripheral nerves. Membranes showed some duskiness.

My impression of this patient was that she had the beginning of peripheral neuritis of toxic origin.

3-10-45, she was given treatment A, two pounds, forty minutes. Patient states today that she is feeling less dizzy when first removed from the chamber. There was a marked clearing of the sclerae and mucous membranes. There was no diagnosis or prognosis made in this case. She is willing to continue her treatments.

VII. Mr. H. B. S. 2-24.45.

Age 50, married, and worked in the spreader room of one of the rubber companies. He states that he has worked for five years in the spreader room. Three years ago he became acutely sick as a result of inhalation of fumes and was found by his family physician wandering in the streets in danger of being hit by automobiles. He was laid off for a period until he recovered from this attack and for awhile he did not work in contact with fumes. He states that now he has difficulty in sleeping; that he feels groggy or half drunk most of the time; that he has dizzy spells. There is loss of arithmetical ability. He was referred here by another patient, Harry P., who had taken the oxygen treatment. The physical and neurologic examination was essentially negative. His blood pressure was 140/90. The tongue was red and somewhat furred. There is no evidence of arteriosclerosis in the eye grounds or peripheral vessels. His face is quite suffused and anoxic in appearance. The sclerae were quite congested. He was given treatment A on this day for forty minutes, two pounds. 2-27-45, 3-6-45 and 3-13-45, he was given further treatments. He was questioned carefully today concerning his opinion of the treatment. He seemed enthusiastic about it and was anxious to continue. He stated that he can think much more clearly and this was evidenced by the relevance of the conversation. The continuity of thought and the entire absence of circumstantiality as was markedly present at the time of the first examination, have disappeared. He, as well as others who have become sick as a result of fumes and vapors, was advised to ask for a change in jobs. He was also given Vitamen B Complex t.i.d. and advised to take cascara to secure daily bowel movements.

VIII. Miss G. B. 3-11-44.

Age 20, single, employed as an inspector in a laundry and dry cleaning plant. This patient has a long history of mental illness of the dementia praecox type. She is delusional, hallucinated and emotionally indifferent. She attempts to escape from the tormenting voices by working extra hard. It was decided to try the oxygen treatments on this patient and on 3-11-44 she was given the usual therapy. These were kept up until 4-14-44 and were then discontinued. During this time she had nine treatments. There was no appreciable change noted in her physical or mental condition except that the hallucinatory phenomena were less fixed.

IX. Mrs. B. B. H. 4-12-44.

Age 29, housewife. Patient had a postpartum psychosis of a depressive nature. She was depressed; had some rather bizarre delusions concerning growth of hair on her face. She continually thought of suicide. She was unstable; frequently broke down and cried. She decided to try oxygen therapy and on 4-12-44 was given her first treatment. 5-12-44; by this time she had six treatments of the usual time and the usual pressure. She continues discouraged and thoughts of suicide are ever present. Her husband has been repeatedly urged to have her taken to a sanitorium and this he refused to do. Irrationality which was noted in her continued until 6-6-44 when she stated that she had one day in which she felt perfectly normal. Otherwise, there has been little change. Nothing has been heard from the patient since that time.

X. J. S. G. 4-4-44.

Age 28, grocery store proprietor. This patient for a long time has been troubled with an exzematous-type skin eruption. He has had practically all the treatments known for this condition. He wished to take an oxygen treatment as an experiment. He took one and we have not heard from him since. He did state that he felt somewhat euphoric and buoyed up after the treatment.

XI. H. P. 12-11-44.

Age 41, married, worker in the spreader room in one of the rubber factories. About three years ago, shortly after he began to work in the spreader room, he had a short period of unconsciousness similar in nature to a petit mal attack. Since that time he has had several attacks while watching stock in the spreader room. 7-29-43, had a major convulsion at night at home. He became completely unconscious. 6-29-44 he had another major convulsion at night shortly after going to sleep. On August 4, 1944, he had a spell of minor nature. One week ago, 12-4-44, he had six minor attacks. These are very fleeting in character. There has been no spell since that time. He has had several physical examinations and blood examinations without another showing of the pathology. 180/100 was his blood pressure, and reflexes were approximately normal. He shows some signs and evidences of anoxia and it was felt that he was suffering somewhat from exposure to toxic substances. On 12-15-44 he was given treatment A for forty minutes. 12-21-44 another treatment was given. At the time he came for the second treatment he reported that he felt a great deal better following the first treatment. He is following the advice given and walks daily in the fresh air. He is taking B Complex t.i.d. The patient has not returned since 12-21-44. but he sent word by another patient that he is feeling fine and has had no return of his symptoms. He in turn referred to me the man H. B. S. who works in the same department with him.

XII. P. F. R. 3-31-44.

Age 20, rubber worker. This patient is suffering from dementia praecox. He was discharged from the Army for N-P reasons. He is able to work only part time due to his mental aberrations and then only in a job which does not require any particular mental effort. It was decided as an experiment to try oxygen therapy. 3-31-44 he was given his first treatments and he had treatments at irregular intervals until 7-11-44. at which time he has had a total of seven treatments. There has been no marked improvement in this patient. However, he has been able to work somewhat more steadily and he says that he feels a little more alert and less foggy than previously. This statement was made a week ago.

XIII. Mrs. Norma L. 12-28-43.

This patient first came in on 12-28-43. The diagnosis at the time was involutional melancholia. She was age 45, separated from her husband, and was acutely affected with thoughts of self-accusatory nature as the outstanding feature. 12-30-43 she was given the first treatment. She was given two treatments, the second on 1-3-44. In addition she was given 2000 rat units of Progynon-B into the gluteal muscle each five days. The improvement in this patient was quite marked in many respects and her condition was so much better that on 1-11-44 she was given permission to return to her job in the Firestone cafeteria. She seemed reluctant to spend any more money for treatment and discontinued of her own accord. Some several days later it was learned that she had committed suicide by hanging.

XIV. F. W. F. 11-30-44.

Age 36, married, foreman in a rubber shop. This patient works in M. E. K., benzol, carbontetrachloride, etc. In addition to this, he does considerable drinking of beer, whiskey, and some wine. When he came for an examination he was in a confused, somewhat disoriented state and it was difficult to decide the exact status. The face was suffused and anoxic in appearance. He was having considerable trouble with his wife. He returned the following day (12-1-44) and was given a treatment. He had a total of three treatments and was showing quite a bit of clearing of the confusion, disorientation, and some lessening of the intensity of the delusional tremors. The family situation is very tense. The patient was lost track of. Nothing further was heard after 12-8-44 when a conference was had with his wife. On 2-10-45 the wife reported the patient had shot himself on 1-6-45.

XV. Mrs. V. W.

Age 34, an employee of a rubber company. This patient had been somewhat unstable, confused, has crying spells and feelings of hopelessness and despair, and is sleepless. She has a trying job and in addition has been exposed to some possible toxicity. A hysterectomy some time ago has no doubt contributed to her illness. She was treated by injections of estrogenic hormone and amphetamine sulfate and in addition had about three oxygen treatments. After three treatments she stated that she felt very rested and boosted up and that she slept extremely well for several nights following each treatment.

XVI. R. L. 3-29-44.

Patient referred from Cleveland by Dr. Gill. He, for a long time, had been exposed to a great many fumes, particularly of sulphur dioxide, in the course of his work in an aluminum plant. He has had symptoms of roaring in the head, a feeling of pulsation in the head, confusion and memory defects. He was 48 years of age, married and a cost estimator. The outstanding symptoms were mental confusion, difficulty in organization of thoughts, difficulty for remembering past events, and sleeplessness. He was given three treatments of oxygen. After each of these treatments he felt somewhat relieved of the confusion and able to work and to think more clearly. The anoxic condition of the skin disappeared and he said he was able to do his work much better. Nothing has been heard from this patient since 4-4-44.

XVII. Mr. C. M. R. 2-24-44.

Age 30, dealer in electric equipment, particularly refrigerators. Patient came in on Thursday, 2-24-44. Four days previously he had been working at night repairing a beer cooling system in a restaurant. He had worked for a period of six or eight hours while exposed to methylchloride gas. After working for this length of time he called his wife in the early hours of the morning. She recognized that he was not normal and accused him of being drunk. He made the statement to her that he was drunk but that he had not been drinking anything alcoholic. He was taken home by his wife and remained in a confused state until seen on the above-mentioned date. The presenting symptoms were dizziness, nausea, throbbing in the temporal region, weakness, unsteadiness of gait and tendency to fall. His tongue seemed thick and it was difficult for him to articulate clearly. He had little memory for what had occurred in the place of work or during the four days since the exposure to the gas. He was promptly given oxygen for forty minutes at two pounds and in addition, he was given parenterally B Complex and B Complex by mouth. He returned on the following day and there had been very little change in his condition. The treatments were repeated. He returned on 2-26-44 and there had been a remarkable change for the better in this condition. He was mentally alert, smiling and complaining of being very hungry. He had good insight into his past confused mental state, and the dizziness and weakness of his legs were gone to a large extent. He wanted to return to work at once but his wife vetoed this suggestion. He was again given a treatment on this date. Improvement continued and on the 28th he was given another treatment. However, about this time the patient decided to experiment a little on himself and voluntarily exposed himself to methylchloride gas. There was a beief return of the same symptoms but not to so great an extent as previously. He promptly cleared up after one treatment. He was treated on 3-1-44 and on 3-3-44 at which time he was dismissed from further treatment.

XVIII. Mr. J. H.

Age 55, who works in refrigeration. There was a history of exposure to methylchloride gas. He stated that there had been some exposure to isobutane, phosgene, but that the chief exposure had been to methylchloride. Occasionally he was exposed to sulphur dioxide. He complained of his legs being weak and unsteady. There was loss of arithmetical ability, memory for recent events was impaired. He wanted to sleep a great deal of the time. At the time of the examination he was unable to tell the time of day by either watch or clock. These symptoms had begun about three years previously. He was well developed and

stocky. His blood pressure was 170/100. He was given an experimental treatment of oxygen on this date and by 6-22-44 had received a total of fourteen treatments. It is notable that after receiving the fifth treatment the patient felt quite well and almost completely his old self again, at which time he likewise exposed himself again to methylchloride and there was a return of the symptomology identical with his condition at the time of the first examination. However, he responded quite well and was dismissed from further treatment on 6-22-44 recovered completely.

XIX. Mr. W. T. V., Sr.

This patient is approximately 83 years old. There is quite a degree of arteriosclerosis and some cardio-renal involvement such as might be reasonably expected in a person of this age. Concomitant with this is a certain amount of mental confusion and dizziness. He was given the usual two pounds of pressure for forty minutes. He felt very comfortable while in the oxygen chamber—laughed and joked during the treatment and to all appearances was much more mentally alert by his exposure to pressurized oxygen. There was a noticeable pick-up for several days in the degree of mental acuity, the appreciation of his surroundings, and in his state of general awareness. There was an increase of energy noted.

XX. Mrs. M. S. 9-2-44.

Age 72 years, housewife. She was brought for examination on 9-2-44. Diagnosis was made of senile psychosis of the depressed and agitated type. Since the prognosis in such a case has necessarily been very poor, it was desired to make a test case of oxygen therapy with this patient to which the husband readily agreed. She is quite delusional and there is some agitation of the patient. She is, however, still able to cooperate when handled carefully. She was treated by means of parenteral B Complex and Amphetamine Sulfate until 11-7-44 when she was given the first oxygen treatment. This was for half the usual period, that is, twenty minutes at two pounds. To date this patient has had nineteen treatments and in that time has shown no dramatic change in the condition, there most certainly has been a noticeable improvement to such an extent that her husband is anxious that she continue. The changes noted by him are as follows:

1. There is less mental retardation and emotional depression.
2. There is more freedom and spontaneity in conversation.
3. There is more interest in personal appearance.
4. She has shown an interest in getting well (whereas formerly her attitude has been one of hopeless despair; she now asks often if I think she has shown improvement).
5. The evidences of anoxia are lessening. The mucous membranes and the skin are much more clear.

XXI. M. A. A.

Age 34, proprietor of a night club. This patient comes from a family several of whose members are afflicted with migrainous headaches. One brother was recently discharged from the Army because of migraine. The patient at about sixteen years of age began to have the typical migrainous attacks. The left side of the head and the temporal region were involved. This was accompanied by throbbing sensations in the temporal region. Four weeks ago it was necessary for the patient to have some hemorrhoids removed. The surgeon was not aware of the history of migraine and spinal anesthesia was used. Following this, the patient developed a severe migraine attack and because of this severe headache which persisted over almost the four-week period, he had been using an exhibition of drugs including anacin, aspirin, whiskey, etc., all of which were to no avail. The pain had become so severe that he seriously contemplated taking his own life. One time during these four weeks, he took a plane to New York and stayed in a hotel room alone for five days. Diagnosis was migraine. On this date he was given oxygen forty minutes of two pounds. On the following day he reported again for treatment. Clinically he was much better following the treatment. He had lost a great deal of the nervousness and the headache was much less. The next day he reported that he slept quite well and he was much more normal in his reactions. Again, on the sixth of February, he was given a treatment and on the eighth of February, another treatment. By this time all of the migrainous symptoms had disappeared and he was feeling quite well. He was eating and sleeping quite well, sometimes as much as thirteen hours without any sedative. He felt full of energy and seemed anxious to work. Between February 8 and March 7 he had one day in which he felt that the migraine was returning. He was given treatment and the symptoms promptly disappeared. This was about 2-15. Since that time there has been no return of the headache. However, on 3-7-45 he became quite upset over the death of his new-born infant and developed generalized urticaria. This was treated by adrenalin aqueous and also adrenalin in oil. 3-10-45, the patient was feeling particularly knocked out after the sleeplessness as a result of the urticaria. He was given oxygen two pounds for forty minutes in addition to the adrenalin treatment in the morning. He felt much better after the treatment and worked all day without becoming fatigued in spite of his sleeplessness of the night previous.

XXII. Mr. R. G. V. 10-15-47.

This patient is 85 years old. There was a degree of arteriosclerosis and some cardio-renal involvement such as might be expected in a person of this age. Analysis of the urine indicated an infection of the kidney and/or bladder. He was bedfast, mentally confused, and lost control of body functions. He was given pressurized oxygen for 40 minutes at two pounds pressure. His mental confusion disappeared completely and he was able to walk to the bathroom unassisted. He stated he felt young again and that he was going to get well. Five pressurized oxygen treatments were given. After the first oxygen treatment penicillin

was administered which checked the kidney infection. This patient's recovery seemed outstanding as he appeared to be on the verge of death when treatments were started.

XXIII. Mr. V. K. 11-8-47.

38 years old, had developed pneumonia as a result of industrial exposure to a certain chemical. His pulse was 130, respiration 50, every breath was a fight, and had been delirious 48 hours. He had attempted several times to leave the hospital. Oxygen was being administered in conventional tent for the previous 48 hours. Eighty per cent of the lung area was inoperative. In transferring the patient from the oxygen tent to the pressurized oxygen chamber an oxygen mask was used. The patient's transition was dramatic. His lips lost their bluish cast within 30 seconds and changed to a healthy pink. His respiration dropped to 35 within five minutes and the fighting for breath ceased entirely. He appeared quite comfortable. Within 10 minutes his delirium completely disappeared and he was able to converse rationally. Within 15 minutes he was perspiring profusely. His treatment was continued for 70 minutes and then transferred back to the oxygen tent. The transition in this case was the most startling ever witnessed. Here was a man delirious and dying in an oxygen tent who immediately improved upon being subjected to pressurized oxygen. The rapidity of oxygen intake was again demonstrated to be several times faster than any other methods. This patient continued to improve for two weeks without any additional pressurized oxygen treatment. X-ray studies of the lungs showed they were clearing up satisfactorily. An unexpected complication caused death at the end of two weeks. An autopsy was not possible. It was agreed that the pressurized oxygen in no way contributed to death. In this case we do derive some measure of satisfaction in witnessing the transition of a hopeless case to one apparently on the road to recovery.

SUMMARY

I believe that I also speak for the late Dr. Hays when I say that we are not so bold as to believe that we have perfected a form of treatment. Additional work is needed to determine limitations, the spheres of usefulness, and true values. Toxic chemicals—benzol, carbon tetrachloride, methylethylketone, alcohols, carbon monoxide, refrigerants such as methyl chloride, hydrogen cyanide and many others are being used in the rapidly growing chemical industries. The need for fast intake of oxygen has been correspondingly increased. We do not hesitate to recommend this method for such cases. The method as used is apparently free from danger. Precaution normally used for oxygen should be followed such as elimination of matches, cigarette lighters, smoking, etc. The external evidences of cyanosis and anoxia can be made to disappear in a matter of seconds. It is a more easily controlled method of giving oxygen than either tent, mask, or nasal catheter. It is much faster than the proportion of alveolar pressure would indicate. Apparently considerable transmission of oxygen into the blood is accomplished directly through the pores of the skin. Industrial toxic cases have responded well to this treatment. Mental confusion and delirium seem to completely disappear. Migraine cases are definitely helped. Insomnia is benefited. In addition to its application in the medical field it should find a useful application for the chemical and fire fighting field where speed of resuscitation is vital. In the cases presented here and in the preliminary report the benefits may be classified as follows:

Excellent—67%
Fair—22%
No change—11%

In view of medium and excellent benefits in 89 per cent of the cases covering a period of over four years it is believed that this new method of administering oxygen is worthy of more widespread application and further research.

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Seminar represents one-quarter of a year's work—eight credit points—when used to meet certificate requirements or when transferred to educational institutions where a year's credit is 32 points. Scholarships are available to Connecticut school teachers.

ANTIBIOTICS MEETING

(*Continued from page 5*)

composed of outstanding authorities in the field who serve as special consultants to the National Institute of Health.

At the symposium the latest information on penicillin, streptomycin, bacitracin, subtilin, tomatin, and other chemotherapeutic agents will be presented.

Research scientists and others who wish to attend the meeting or who have original, unpublished observations to present should communicate with Dr. Leonard Karel, Executive Secretary of the Antibiotics Study Section, National Institutes of Health, Bethesda, Maryland.

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F. H. BARNES, M.D., Med. Supt.

EDITORIAL

Child Psychiatry

It is only quite recently that the mind of the child has been explored from the basic standpoint of behaviorism. However, it is necessary to mention the pioneer work of Professor James Mark Baldwin, formerly of Princeton University and later head of the department of philosophy and psychology at Johns Hopkins. In 1906 he published Mental Development in The Child and The Race (MacMillan Co.), but this was a study in psychology, methods and processes, and was evolutionary in character. The mind of the child is so unformed that it seems unlikely that a proper decision can be made as to *how* the mature individual will "turn out." There is, however, something like a "norm" from which one may make deductions more or less accurate.

A child from his first year onward lives in an environment so strange and difficult to encompass, that he begins immediately or shortly after birth to show pleasure or displeasure, satisfactions and dissatisfactions, and quickly learns to become a psychologist on his own, studying attitudes and peculiarities of adults, their strength or weakness, their response to his moods, and the most likely workable method of getting what he wants through subtlety, deceit, show of emotion (crying, screaming, etc.). He lives in a little world of his own and often rebels against it. There is no doubt that behaviorism in a child is predicated upon his keen observation of parental conduct, or that of other adults and children about him. It seems questionable whether any child is "born bad" although students of heredity may well take exception to this. There is, of course, an inheritance of acquired characters such as violent temper, taking for one's use what belongs to another (stealing), lying, desire for vengeance, cruelty, etc., but the distinction between what is merely imitative, and what is innate is not easy to make. When one speaks of *education*, he may consider it in every possible phase, and yet leave out education for parenthood, motherhood, wifehood, and interpersonal, social relations among individuals. The pediatrist must of necessity be a psychiatrist, although this statement may surprise some persons who practice that specialty without realizing it. The pediatrist, as Dr. E. A. Park observes, is essentially an internist who practices medicine with humans in their infancy. He must, therefore, be in a sense omniscient in "general practice." There is always before him the period of what Kanner* calls "Basic Orientation" which takes in the period of elementary socialization, resistance thereto, a compromise with communal socialization, a period which demands that one "get on" with one's fellows, and a reversion to the primitive order of tooth and claw. The well-known scientific dictum that phylogeny must precede ontogeny, simply refers to the fact that the individual must pass through all of the stages which the race has passed through in developing culture and what we call "civilization." The process has been slow to our hurried ways of thinking, but not relatively, if we consider thoughtfully the age of man compared with the age of the earth, and the quiet period of emergence from the mud puppy and his kind to the rational, thinking being, intent upon making his place in the world as comfortable and as otherwise satisfactory as the intellectual urge may demand. Everyone knows that the history of civilization has been one of shameful wars, thefts, deceits, futile wanderings, subjugation of peoples, slavery, and dreadful conduct in general in man's effort, if one can call it that, to work out the beast. Carrying this matter right down to date, when a mother brings her child to a psychiatrist, more often than not she is in need of mental re-orientation herself before one can hope to set matters right in her home. The intelligence quotient is too often low, and so-called common sense is quite an uncommon quality. We adults are still far, far away from conduct which one may hold aloft as ideal, and we are sometimes astonished by the things we do after reflection and, one may hope, repentance. These points are mentioned here because they are basic in any approach to psychiatry, be it in children who have not yet grown up, or grown-ups who are still children in their fatuous pride of origin or race or genealogical sequence.

But to return to Dr. Kanner's book, he takes into account all physical ailments and anomalies which account for so much of human unhappiness. This is set forth in Part Four which deals with Phenomenology—that is, with accidents, injuries and infections which so directly influence human conduct. The structure and functions of the brain and spinal cord when acted upon by disease bring about no end of problems in behaviorism. As for intellectuality, it may be associated with the most indecent departures from a sense of ethical obligations or consideration for the rights or welfare of other humans. We too often call such individuals *geniuses* which sets them apart from the *hoi polloi* or common run-of-the-mill *genus homo*. It

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Child Psychiatry by Leo Kanner, M.D., Associate Professor of Psychiatry, Associate Professor of Pediatrics, Johns Hopkins University. With Prefaces by John C. Whitehorn, M.D., Adolf Meyer, M.D., LL.D., and Edwards A. Park, M.D. 752 pages. Author and Subject Indices. References. Second Edition, First Printing, November, 1948. Charles C Thomas, publisher, Springfield, Illinois. Price, $8.50.

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is, indeed questionable how much genius has contributed to the scaling of the ladder of evolution toward a higher more spiritual existence. We are all hero worshippers to some extent, and too often we err as to the identification of what we mean by heroism. One may assume that it should apply to human conduct of such a high order as to bring joy or relief from a trying situation to some person or group of persons through offering one's life or limb in an emergency regardless of consequences. It is a deep-rooted attribute of human conduct, and is found among children quite as often as in adults.

In these days of exaggerated interest in sexual behaviorism, the chapter (XXXVIII) dealing with this subject will be of interest to many readers in search of the bizarre or deviations from a norm which is supposed to exist among all "decent people." It would seem that insatiable curiosity may be at the bottom of such prying investigations, and this quality may be quite harmless if properly bridled and understood.

The pages on "broken homes" might well be read by those contemplating marriage or divorce or the rearing of children (P. 167–170). Kanner states that some 30 per cent of the children who are brought in for psychiatric study and analysis come from homes where there is only one parent or no parent. An even worse condition exists where a man and woman persist in trying to live together "for the sake of our children," but who are constantly at war over the table or elsewhere in living quarters where "quarrels, hatred, brutality, alcoholism and irresponsibility" in general are in the daily round. Children should be removed from such influences by whatever procedure, legal or other, best meets the requirements. Let no one think, however, that the child will be "in good hands" if brought up by senile grandparents. His youthful activities will so annoy the elders that they will exercise a form of cruelty and ostracism all unwittingly. A "good home" for such unfortunate children is rare indeed and is a prize when obtainable. Affection, understanding, toleration, precept and example, kindness, a high moral standard are basic requirements for every child. Fortunate beyond compare is the child who receives these things in full measure.

CANCER COUNCIL APPOINTMENTS MADE

Appointment of *Dr. Lowell S. Goin* of Los Angeles and *Dr. J. Elliott Scarborough, Jr.*, of Atlanta to the National Advisory Cancer Council has been announced by Surgeon General Leonard A. Scheele of the Public Health Service, Federal Security Agency. The new appointees, who will serve for three years, will formulate policies for the Institute and review applications from non-federal agencies for aid in cancer control and research. Both men are specialists in radiology.

PERSONALS

Dr. Edward M. Bernecker has been appointed Administrator of Hospital Services with the New York University-Bellevue Medical Center, University Chancellor Harry Woodburn Chase has announced. Dr. Bernecker, formerly Commissioner of Hospitals, will now be responsible for administration of University Hospital, the Institute of Rehabilitation and the various university clinics. His duties will include coordination of the clinical programs for teaching in other hospitals associated with the Medical Center. Dr. Bernecker's knowledge of the construction and operation of modern hospital facilities is expected to be a valuable factor in executing the construction program of the new university section of the Medical Center scheduled to begin next spring.

To honor the late *Dr. Irving S. Cutter*, former health editor of the *Chicago Tribune* and for many years dean of Northwestern University medical school, that university is presenting an exhibit of photographs, manuscripts, and rare volumes in its medical library. The display features rare books from Dr. Cutter's collection of early works on midwifery and manuscripts of his original contributions in the fields of med cal history and education.

Dr. Rollo E. Dyer, director of the National Institute of Health, principal research unit of the Public Health Service, has received on behalf of his agency the 1948 award of distinction from the American Pharmaceutical Manufacturers' Association for the Institute's contributions to public health through fundamental medical research. The award was made for the past year's achievements in the isolation and identification of the organisms which cause several types of the common cold, development of tests for amoebic dysentery, improving the treatment of malaria by new drugs, and identifying the common snail as a carrier of schistosomiasis.

Dr. Hilda H. Kroeger, of Tucson, Ariz., has been made assistant director to Dr. Albert W. Snoke, director of the Grace-New Haven Community Hospital and professor of hospital administration at Yale University. Dr. Kroeger was a member of the first class in the Yale course in hospital administration which is aimed to prepare students for responsible positions in hospital management. Before coming to Yale, she was director of maternal and child health in the state department of health in Phoenix, Ariz.

In celebration of the 100th anniversary of the graduation of Elizabeth Blackwell, first woman to receive the degree of doctor of Medicine from Hobart College, citations have been awarded to ten leading women doctors of the United States and Canada for their achievements in the medical profession. At a special convocation on January 23, those cited were: *Drs. Florence R. Sabin, Alice Hamilton, Helen B. Taussig, Martha May Eliot, Gerty Cori, Priscilla White, Helen V. McLean, Margaret D. Craighill, Helen MacMurchy*, and *Elise S. L'Esperance.* Nominations for the citations were made by the deans of the class A medical colleges of the United States and Canada. A citation also went to *Dr. Helen Marion Macpherson Mackay*, nominated leading woman physician in England.

Dr. Howard A. Rusk, professor and chairman of the department of rehabilitation and physical medicine at New York University, and *H. B. Cummings*, regional representative in the southeast for the office of rehabilitation of the Federal Security Agency, have received the annual meritorious awards of the National Rehabilitation Association for outstanding service in that field. Dr. Rusk, wartime chief of the Army Air Forces rehabilitation program, is also director of the new Institute of Rehabilitation and Physical Medicine of the New York University-Bellevue Medical Center and consultant in rehabilitation to United Nations. Mr. Cummings has worked with the federal-state civilian vocational rehabilitation program.

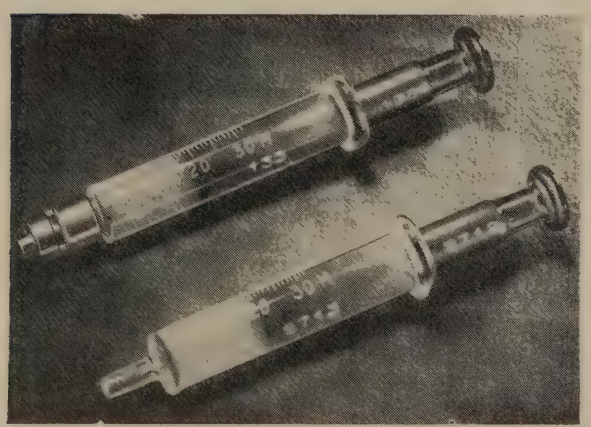
Drs. George Babcock and Abbott W. Allen, have been appointed to the medical staff of Schering Corporation, Bloomfield and Union, N. J., company president Francis C. Brown has announced. Dr. Babcock, who majored in endocrinology at Rutgers University, received his doctor's degree at Western Reserve University. He joined the Schering staff after completing his interneship at East Orange General Hospital. Dr. Allen, a graduate of Columbia University's College of Physicians and Surgeons in 1927, specialized in endocrinology in private practice and was chief of several clinics in that field. He has been assigned to Schering's division of clinical research.

Drs. William S. Tillett, Colin M. MacLeod, and *R. Keith Cannan*, faculty members of New York University College of medicine, were each recently presented with the Certificate of Appreciation, a joint U. S. Army-Navy award for patriotic civilian service. Dr. Tillett, professor of medicine and chairman of the department of medicine, Dr. MacLeod, chairman of the department of microbiology, and Dr. Cannan, chairman of the chemistry department, received their certificates from Colonel Frank A. Allen, executive officer of the New York-New Jersey-Delaware military district.

NEW PRODUCTS

A new surgical sock, Kast-Socks, designed by an orthopedic surgeon to protect the toes of persons wearing plaster leg casts, is being marketed by Plant Products, 149 West Fourth Street, Cincinnati, Ohio.

Made of fine white combed cotton yarn with an unusual amount of stretch, the sock is easily put on over the cast. Seams and points of strain are reinforced with extra stitching to assure long service. Rubber bindings at both heel and toe opening makes the sock fit smoothly over the cast. Kast-Socks can be washed and used repeatedly.



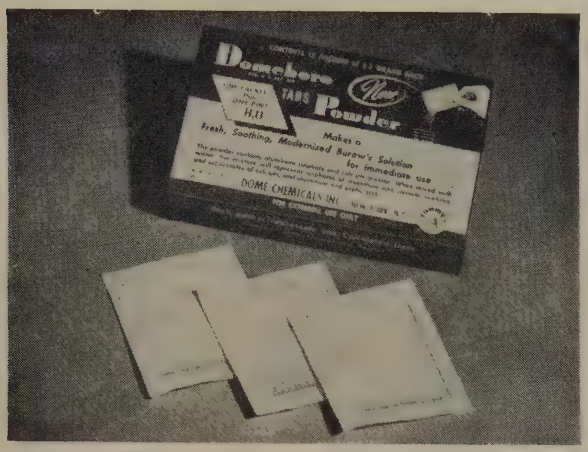
The hazard of airborne infection, fought constantly by hospitals and doctors, can now be controlled with the new Vapomatic vaporizer combined with the newly antiseptic effect of certain Glycol vapors. Featured by Merit Western Products Company, 2822 West Valley Boulevard, Alhambra, California, this vaporizer generates an antiseptic invisible cloud of Glycol that disinfects the air, thereby killing bacteria and virus which account for many respiratory ills and other infections.

Marked success in the use of Glycol vapors by the English in air raid shelters during the war, and the subsequent clinical and laboratory work under wartime sponsorship of the Surgeon General, U. S. Army and the Office of Scientific Research and Development, demonstrated the power of tasteless, odorless and non-toxic Glycol vapors to control the menace of living bacteria and virus suspended in air.

Sold under an exclusive agreement with the Children's Hospital of Philadelphia, the Vapomatic operates from any standard light outlet.

A new, improved Premier line of "clear view" syringes has been announced by Premo Pharmaceutical Laboratories, South Hackensack, N. J. The new syringes feature a special process which swedges metal to glass, thus preventing separation of the metal lock from the glass barrel after repeated sterilization. No cement is used. Pistons are made of colored glass for easier reading.

The Luer lock syringes are identified with dark green pistons, while the rest of the line with Luer tips is identified with dark blue pistons. The Premier line of syringes by Premo will cost no more than the average syringe on the market.



Dome Chemicals, Inc., 250 East 43rd Street, New York 17, N. Y., manufacturers of the soothing modernized form of Burow's Solution, under the trademark Domeboro, have announced a new innovation in their constant efforts to make wet dressing therapy more convenient and efficacious.

This new development is called Domeboro Tabs Powder Packets and consists of an individually calculated dose of Domeboro powder equal to a Domeboro Tablet.

The contents of this packet poured into a pint of ordinary water provides an excellent wet dressing solution for use on all acute inflammatory conditions of the skin such as dermatitis, athlete's foot, insect bites, poison ivy, varicose ulcers, eczema, bruises, infections, traumatic injuries, feminine hygiene, etc.

The new Mineralight Model H ultra-violet lamp is being offered by Ultra Violet Products, Inc., of Los Angeles. Equipped with a genuine Woods filter, the unit operates on 110 volt A. C. from standard electrical plug-in connections.

Valuable for fluorescent analysis, Model H Mineralight is also being used for identification of minerals by mining companies and diagnosis of skin diseases by medical men. A full guarantee is furnished by the maker.

A mattress that gently massages the pressure areas of the body of a bedridden patient, and thus reduces the danger of bedsores, has been announced as the joint development of the Firestone Plastics Company and H. J. Rand Foundation, Cleveland.

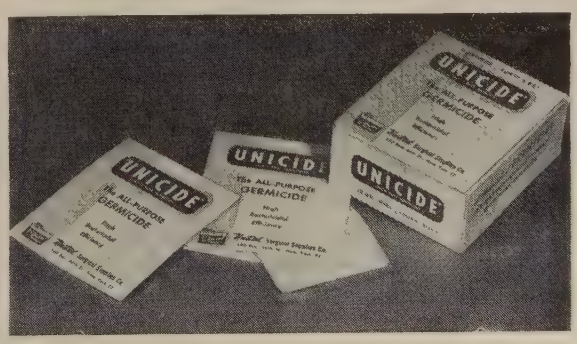
Mattress, constructed of Velon, Firestone plastic film, consists of a series of air cells one and one-quarter inches in diameter running its width transversely. Alternate cells are connected to a manifold which forms the edge of the mattress. The two systems of interspersed cells are alternately deflated and inflated at short intervals by a small electrically driven pump. This action produces a massaging effect on the patient's body.

Clinical tests have been made with the mattress since July, 1947, with satisfactory results. In addition to serving as an aid in the prevention and treatment of bedsores, the mattress reduces considerably the amount of nursing required in these cases.

The introduction of a new all-purpose medical germicide, Unicide, has been announced by the United Surgical Supplies Company, 160 East 56th Street, New York City.

Unicide, a powerful ammonium quaternary disinfectant in powder form, is high in bactericidal and low in toxicity, and contains carbamide, a special ingredient which exerts an emollient effect aiding the skin in retaining a soft appearance.

In tincture form, Unicide may be used in surgical and medical procedures which require pre-operative skin antisepsis; the aqueous form is used for irrigations, instillations, wet dressings and sprays. Made in quart and gallon sizes, the powder is ready for instant use. One packet when mixed with the correct amount of alcohol or water gives a 1:1000 tincture or solution at low cost.



BOOK REVIEWS

Nursing

Nursing for the Future: Report prepared for the National Nursing Council. By ESTHER LUCILE BROWN, Ph.D., Director of the Department of Studies in the Professions of Russell Sage Foundation. Russell Sage Foundation, 1948. Price $2.

This is a report of the National Nursing Council for War Service and contains a history of its own work, an economic survey of the nursing profession and a study of the newer concepts concerning nursing education. This is the third report of its kind. The report indicates that inadequacies in the quantity and quality of nursing as is presently available stems primarily from an outmoded system of nursing training and education. Doctor Brown's report should be read by all training schools and social agencies because it has been prepared with provision for the nursing and health needs of society as its primary objective. The report is good reading and makes valuable suggestions. There is no doubt that nursing is badly in need of these studies and of the recommendations these reports suggest.

Human Nature

The Driving Forces of Human Nature and Their Adjustment: By DOM THOMAS VERNER MOORE, Ph.D., M.D., published by Grune & Stratton, 1948.

The author, a Monk of the Order of St. Benedict, has done the impossible job of bringing to his readers two completely separate and distinct books appealing to the cold scientist and to the citizen requiring solace. Both books—within each other—are readable with keen enjoyment and much profit by both sets of people. The science is unapproachable. Dr. Werner has found the facts. He has placed them in their only sequence—hence the proper sequence. He tells us again and again of Newton. He brings his facts down to yesterday, or at least yester-year. He retails the experiments of the new studies of micro-dissection and biology.

For his own gratification and to help mortals, the author has sought the best of the writings of the great philosophers and teachers. The WORD is there. No one can refute it.

This is a book requiring time and attention. It should be available for the odd moment when one seeks contemplation and evaluation of his own effort in this world.

A study examination closes the book.

Psychoanalysis

Contributions to Psychoanalysis: Eighteen essays, mostly concerning psychoanalytical problems of children. By MELANIE KLEIN. The Hogarth Press, Ltd., 40–42 William IV Street, London, W. C. 2. And the Institute of Psychoanalysis, 1948. 390 pages and a bibliography and index.

Mrs. Klein is well known in circles devoted to psychoanalysis. She is a frequent contributor to the literature and her contributions are acceptable and thought provoking. In this volume, she has gathered the fruit of magazine and journal writing for the past decades. She has made no changes. She merely makes it easier for her followers to find her material.

Mrs. Klein has made a study of children—field work one may call it. She has utilized the Freud concept, but goes beyond Freud. And many readers may believe Mrs. Klein goes beyond their own capacity to accept her tenets.

This is a thought-provoking book because in each sentence Mrs. Klein divulges the result of her observation of the child and then utilizes this observation to outline a course of activity. She is unafraid of the past; she faces the future. She breaks with tradition and builds the foundation for a new tradition. All learned people with any interest in the field of psychoanalysis must read again in this convenient form the fruits of her pen.

Microbiology, Pathology

Microbiology and Pathology: Progress in Microbiology and Pathology. By CHARLES F. CARTER, B.S., M.D., Instructor in Pathology and Applied Microbiology, Parkland Hospital School of Nursing, Dallas, Texas; With 216 Text Illustrations and 25 Color Plates. St. Louis: The C. V. Mosby Co., 1948. Fourth Edition. 788 pages, plus an index and glossary. Price $5.

From the medical standpoint, how microbes get into the body, how the body resists them, why disease is sometimes produced and is not produced at other times, and how microbes are thrown off from the body are especially stressed because it is upon these factors that the scientific nursing of infectious diseases and their prevention depend. The practical application of immunological methods, vaccine therapy, and serum therapy are emphasized and their scientific basis is explained. Throughout the portion of the book devoted to pathology the idea that the signs and symptoms of disease are but outward manifestations of underlying changes is constantly kept before the mind of the nurse. How these changes are brought about and how the body reacts to them, causing the manifestations of disease, are explained, and practical application of this knowledge is made to bedside nursing. Although the fundamentals of pathology are primarily emphasized, a brief consideration of the facts of special pathology is included. In order that the text may be better understood, short laboratory exercises are appended to those chapters in which such exercises are thought to be of value.

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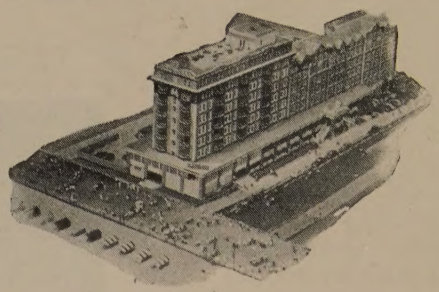

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